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Learning from Public Comments:

Insights from the Western Oregon Plan

Revision

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Contributors

Brian Muller (Project Director)
George Awour
Siegmund Langegger
Stacey Schulte
Bambi Yost

Land Use Futures Lab, Box 314 Environmental Design Building, University of Colorado Boulder, Boulder, CO 80309

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Executive Summary

This report describes methods and findings from an analysis of public comments received by the Bureau of Land Management (BLM) in response to the Draft Environmental Impact Statement for the Western Oregon Plan Revision (WOPR). This project is an exploration of alternative methods for analyzing public comments, looking beyond the specific requirements of the National Environmental Policy Act to a more general investigation of attitudes toward WOPR and management of the public lands. We developed a prototype for a mixed qualitative and quantitative approach to analysis of public comments that combines content analysis, spatial analysis and descriptive statistics. In this report, we describe these methods and discuss the patterns of attitudes, values and uses of BLM lands revealed through comments about WOPR which are illustrated with specific quotes.

Methods

Approximately 18,000 public comments were generated by emails, mail, and the BLM's WOPR website of which approximately 3500 were unique (i.e. non-form letters). Of the total comments received the majority of comments were received via email (42%) followed by postcards (28%), mailed comments (16%) and website (14%). We analyzed both unique and non-unique comments using three methods.

- *Analysis of comment geographical distribution and commenter profiles,* based on 4500 comments gathered through the project website and from postcards. The website allowed for user information to be collected through an interactive map query tool containing questions about visitation, activities, occupation and concern.

- *Analysis of general attitudes toward WOPR and public land management,* based on a random sample of 500 comments coded for themes and comment types. We focused on three thematic categories: statements about topical interests, statements of value and utility, and statements about governance of public lands.

- *Analysis of attitudes toward planning and management of specific places,* using an Interactive Map technology with which the user places a point on a map and makes a comment about that location.

Findings

We outline results below related to policy environment, key topics and concerns, management ethics and site-specific controversies. In addition, we assess geographical and social profiles, usefulness of methods and possible management applications of this approach. We anticipated some of these results; others are unexpected. In either case, they should be useful in documenting attitudes about WOPR, suggesting frameworks that may be helpful for post-RMP/EIS management and assessment activities, and indicating new directions for attitudinal research related to public lands. Further pilot projects are necessary to define more specific management applications.

Policy Environment. As expected, many comments express polarization between different groups and frustration with BLM. Some comments describe intense suspicion or animus toward groups perceived to be on the other side. Many commenters are confused by BLM goals, mandates and legal requirements and see a bias in BLM toward relaxing environmental protections. A number of commenters are critical of WOPR governance processes, related for example to use of science, the public participation process and the readability of the draft EIS.

Key Topics and Concerns. As we anticipated, most comments address timber and water resources. These topics are discussed both separately and in combination, e.g., as relationships between forest integrity and water quality. Many comments focus on protection of old growth forests. Interestingly, a much lower percentage of comments focus on concerns of rural communities and very few speak to the interests of the timber industry.

Management Ethic. Most comments were either statements of single interest focused on personal uses of the BLM lands or moral imperatives directed to future generations of BLM users. Surprisingly, a high percentage of comments express a forest management ethic that crosses

issue areas including environment, health, the economy and recreation. Integrated statements of forest management ethics are characteristic of many different comment types, not only associated with distinct attitudes such as environmentalism.

Importance of Place. A large number of comments are about specific sites. Place-specific comments show a pattern of strong emotional attachment to existing landscapes. Many commenters indicate that they have retired to Oregon or moved specifically to enjoy what they define as a unique "Western Oregon" environment. Among these commenters, there is significant concern about changing patterns of use on BLM lands, particularly for adjacent landowners

Geographical and Social Profiles. Profiles indicate that comments are motivated by local controversy and proximity to BLM lands. Among cities, the largest proportion of comments came from places such as Medford where specific controversies have developed. Comments are also highly concentrated by zip code. More than 50% of the total comments come from the top 20 zip codes, including seven zip codes from Jackson County, six from Lane County and four from Josephine County. In general, the findings from this section of the report underscore the importance of defining an appropriate commenting and outreach strategy. Commenters utilized different methods of commenting technology based on community type, controversies and policy networks associated with the decision.

Usefulness of Methods. The results of this project are rich and suggest that all three methods may provide useful information for public lands managers. Geographical/user profile analysis generates insights into who uses BLM lands, where they live, and the social patterns of interest in BLM land management. Content analysis provides a vehicle for identifying key values among users of public lands and how varied attitudes take shape as positions. Place-specific analysis supports assessment of how commenters feel about specific sites and how they define their interests with respect to site management. The Interactive Map technology is a productive method for obtaining geographically-specific information.

Management Application. Results of these comment analysis methods are relevant at various stages of the management process. All methods can be applied to development of implementation plans and monitoring processes. Comments about policy environment and management ethic may help in creating assessment frameworks, either for WOPR or other projects, or in defining future policy directions related to WOPR. Comments about place can help in site planning; geographical and social profiles can help in future targeting of public participation efforts.

1. Introduction

1.1 BACKGROUND

In this project, we review public comments submitted in response to the Draft Environmental Impact Statement (DEIS) prepared by the Bureau of Land Management (BLM) for the Western Oregon Plan Revision (WOPR). WOPR is a revision of six Resource Management Plans (RMPs) completed in 1995 as part of the Northwest Forest Plan. The American Forest Resource Council and others sued the Secretaries of Interior and Agriculture alleging that these plans violated the Oregon and California (O&C) Lands Act of 1937 and other laws. Of the 2.5 million acres of public forest land affected by these RMPs, approximately 2.1 million acres (nearly 85%) of the land are under the jurisdiction of the O&C Lands Act [1]. In 2003, the Secretaries of Interior and Agriculture, the American Forest Resource Council, and the Association of O&C Counties settled the lawsuit. Among several requirements of the settlement, the BLM was required to consider in the RMP revisions at least one alternative that does not create any reserves on O&C lands except as necessary to fulfill requirements of the Endangered Species Act.

The WOPR planning process started with a formal scoping phase in which the public identified the issues to be addressed in the plan revisions. This phase was followed by publication of the BLM's Analysis of Management Situation, proposed planning criteria, and state director guidance. The draft EIS was prepared and released in August of 2008. After public review, a final EIS will be released, followed by a review by the Governor's office and the release of a Record of Decision and the approved RMPs.

1.2 PROJECT PURPOSE

This study explores how the comment analysis process for resource management plans can be extended to provide broader opportunities for learning about the people who are involved

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[1] The Oregon and California Lands Act of 1937 requires that timberlands that the Department of Interior re-vested from the Oregon and California Railroad Company be managed and harvested based on principles of sustained yield and that a portion of the proceeds from timber sales be given to local counties (Bureau of Land Management, undated).

in public lands management debates—what their values and positions are, why they feel the way they do and what the opportunities are for redefining positions and conceptions of interest.[2]

Comment analysis associated with the Draft Environmental Impact Statement, as required by the National Environmental Policy Act (NEPA) focuses on "substantive" comments that provide new technical information to decision-makers.[3] While most of the public comments supplied in these processes tend to be value-based rather than technical in character, they still may provide information useful in other planning and management processes (Vining and Tyler 1999). The emphasis in NEPA guidance documents on collection and evaluation of technical information has overshadowed opportunities for gathering other types of information. These include a broad array of social data about uses of public lands and the attitudes of users toward land management, including statements about the value and utility of BLM lands, priorities for resource protection and management, and descriptions of the emotional and cultural significance of places managed by BLM. In this study, we explore whether and how social data contained in public comments can be used as a source of insight and guidance for public lands managers. We examine methods for using public comments to (1) evaluate patterns in arguments about public lands issues; (2) assess public and stakeholder attitudes toward management of public lands; and (3) examine relationships between types of argument, attitudes and the characteristics of participants in planning discussions.

The roots of the public commenting process lie in "the general belief in democratic societies that individuals have the right to be informed, consulted, and even allowed to share decision-making authority on matters which may impact them." (Germain, Floyd, and Stehman 2001, 114) Commenting processes have been described both as a means to create cooperation between the backers of a project and those impacted by it (Shepherd and Bowler 1997), and as a downward slope leading to confrontation and greater friction in the environmental planning process (Benfield 1985; Germain, Floyd, and Stehman 2001). In its current form, commenting and comment analysis can be a source of frustration both to the public and to agency managers. For a controversial project, the public may dedicate many thousands of hours in crafting

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[2] This project was funded by the Bureau of Land Management through a contract with the U. S. Institute for Environmental Conflict Resolution, Daylight Decisions, and the University of Colorado.
[3] BLM defines substantive comments as those that question accuracy, adequacy, methodology, assumptions, present new information or alternatives, or cause changes and revisions to alternatives (BLM, 2008). Comments received in the general scoping phase do not have the same "substantive" requirements as comments made in response to the DEIS.

comments that do not satisfy legal standards for inclusion in a NEPA process. At the same time, agencies must invest significant resources in analyzing comments that under NEPA do not have bearing on the agency decision.

Moving beyond NEPA, in this study we are interested in the additional veins of information potentially available in public comments and their relevance to agency management. Systematic analysis of public comments may benefit agencies in a variety of ways, including:

- enriching knowledge of public values regarding public lands;
- broadening awareness of uses and users of BLM lands;
- enhancing understanding of specific planning controversies;
- supporting long-term land use planning efforts;
- identifying strategies and frameworks for engaging the public and stakeholders in constructive discussion about management issues;
- supporting efforts to mediate among conflicting positions and stakeholder groups;
- addressing the persistent public grievance that agencies do not pay attention to public comments; and
- building trust with the public by establishing protocols for explicitly "hearing" public voices and documenting what is said in a more powerful way.

Most important, the approach to comment analysis that we explore in this study could help BLM more effectively implement decisions and construct adaptive planning processes after RMPs are approved. Discussions with BLM staff suggest that public comments may help guide four types of processes following the RMP/EIS decision. These occur at different levels of the BLM organization, suggesting that methods must be developed to make information derived from public comments available to different parts of the organization.

- *General Scoping* – This type of analysis could be useful in the general scoping phase of plan development in which all comments, not just substantive comments, are considered. Such an analysis could guide the substance of the plan as well as education and outreach efforts. Analysis in the scoping phase could then provide a framework for subsequent analysis of the DIES-related comments.

- *Plan Implementation* - Public comments may help in design of plan implementation activities. These include development of implementation strategies, budget requests, authorizations, and site-specific planning. For example, with respect to site-specific planning, commenters may include individuals with specific concerns related to the site. These individuals could be contacted during the scoping process for an implementation plan.

- *Plan and Program Monitoring* - Public comments may provide guidance for monitoring activities. For example, comments may be used to define issues to be considered in plan and program monitoring.

- *Plan Updating* – Comments could also be used to inform plan evaluations and updates. For example, evaluations and updates could address geographical areas and resources considered sensitive to the commenters. Comments could help in development of an adaptive management plan such as laying out the thresholds or trigger points for changing a management action.

- *Assessment and Policy* – In addition, comments can provide a framework for external oversight by Congress, the Government Accounting Office and the Inspector General. Likewise, it could provide a foundation for internal oversight such as with respect to OMB Circular A123 requiring agencies to assess programmatic risks. Finally, comments can provide a basis for further programmatic change through rule-making, statutory revision, congressional action, and national or regional discussion.

2. Comment method, distribution & profiles

2.1 METHODS

We analyzed comment method by examining the distribution of comments for each comment type and comparing it to geographic distribution. We developed a geographical profile of over 4500 commenters using zip codes from postcard comments as well as information given

by commenters on the WOPR website. Profile of commenters was developed using answers to specific questions from the interactive map tool on the WOPR website including questions about visitation, activities, occupation and place of concern.

2.2   COMMENTING METHOD

BLM created a variety of digital and non-digital opportunities for the public to comment on the WOPR DEIS. By using multiple vehicles, BLM hoped to broaden the group of people who would make comments, and deepen and create more specificity in the kinds of comments they might offer. Commenters had the option of submitting their comment as a (1) document uploaded to the website; (2) paper document or postcard sent in the mail; (3) e-mail with the comment contained either in the body of the text or in an attachment; (4) website comment attached to a specific paragraphs in an HTML version of the DEIS or (5) website comment attached to a specific point on the interactive map. BLM received a total of about 18,000 comments, of which 42% were e-mails, 28% postcards, 16% were paper comments sent in the mail and 14% were web comments (Figure 1).

Website and Interactive Map

The BLM created a website specifically for the purposes of presenting information about the WOPR and collecting comments on it. The website described the WOPR, presented information about natural systems that might be affected by the project, and explained the options for commenting. It included a full copy of the DEIS and map appendices. The interactive map was designed to support commenters who wished to speak about specific places. The user could place a point anywhere on these map layers and attach comments, and was offered the option of filling out a questionnaire regarding their activities on public lands and their values regarding public lands management.[4] The interactive map provided the opportunity for commenters to:

- turn on map layers including U.S. Geologic Survey 15-minute quads, resource data and the DEIS alternatives;
- zoom in as close as a city block and out to the entire state;
- select and zoom to addresses and place names;
- pan across the map;

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[4] The interactive map website was served by the University of Colorado, and the data stored on campus servers.

- browse land allocations at a detailed watershed level;
- review 3-D fly-throughs projecting landscape effects of different alternatives over time
- review scientific information about key natural processes.

Analysis of the interactive map data is presented in Section 4 below.

Figure 1: Screenshot of Interactive Map

Non-unique documents recieved
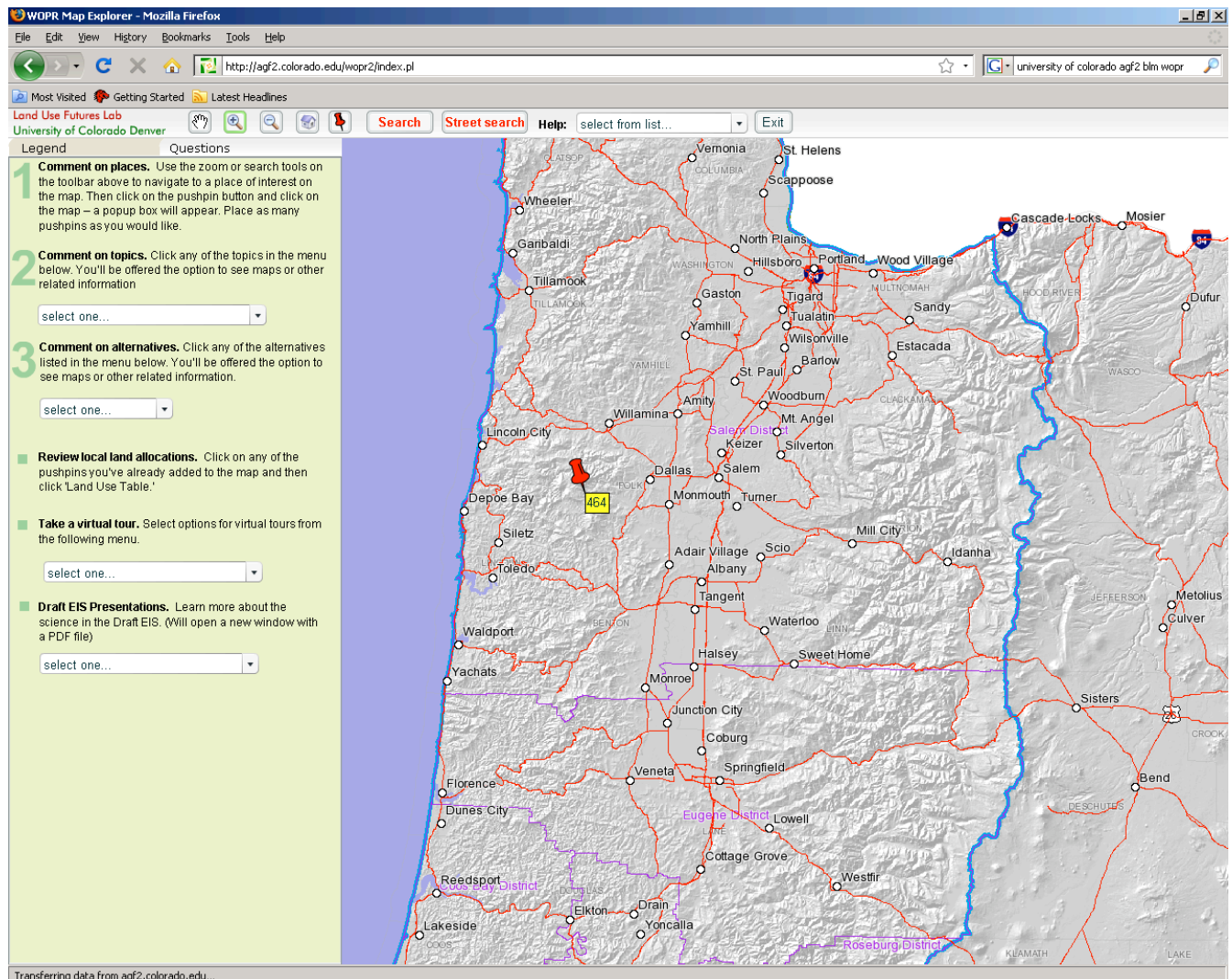
Figure 2: Total Non-Unique Comments Received

Paper comments, 16%

Postcards, 28%

Emails, 42%

Web comments, 14%
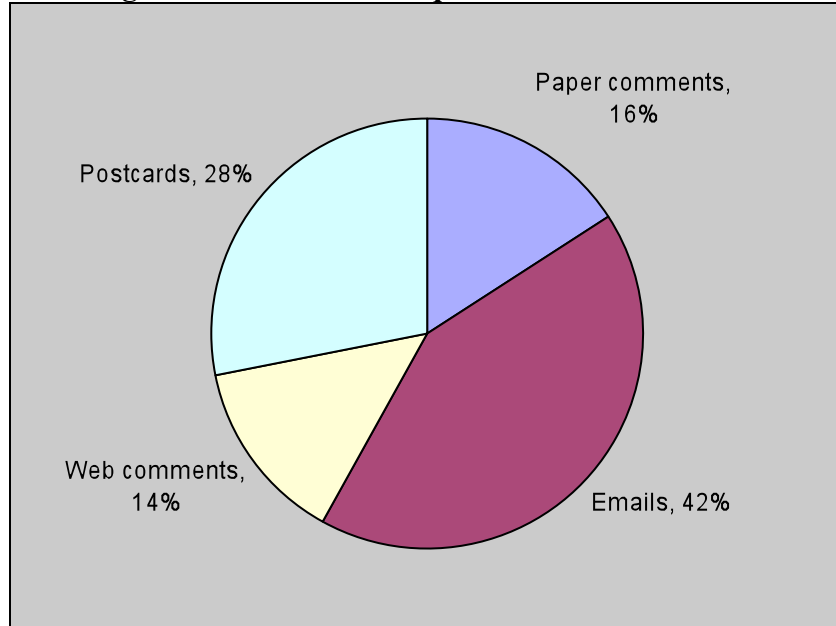
2.3 GEOGRAPHIC DISTRIBUTION OF COMMENTERS

This section of the report profiles commenters according to their place of residence as indicated by zip code information. We focused on three questions. (1) Does community size affect comment generation? (2) Do places that tend to generate comments have common social characteristics? And (3) Is there a relationship between community type and commenting method? In order to address these questions we examined the relative urbanness of the places where commenters reside, the geographic distribution of these places, the social characteristics of associated zip codes and comment method by location. We drew the zip code data from two of the major data sources: postcards and web comments.[5] Tables and maps for this analysis are presented in Appendix 5.

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[5] For people commenting by postcard, we collected zip codes from the return addresses indicated on the postcard. People commenting on the web were asked to enter their zip code on the first page of the website. Zip codes were collected only for a subset of postcards, and not a randomly selected sample. The zip code question on the website was optional. Only about half of the commenters responded, and we assume that this dataset also does not represent a random sample. It is important as well to emphasize that aggregate characteristics of zip codes do not necessarily describe the characteristics of individuals who live within them. Because of these sampling and aggregation factors, our discussion introduces concepts about comment distribution but does not attempt a definitive analysis.

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Comment Distribution and City Size

We analyzed these data in two steps. First, we divided place types into four categories: large cities, mid-size cities, small cities, and rural areas, and evaluated each of these in terms of the number of WOPR comments they generated. Second, we examined the geographic distribution of the zip codes in which commenters resided, and the socio-demographic characteristics of those zip codes (see Figure 3 Appendix 5).

Large cities, as defined in this study, have populations of more than 200,000; mid-size cities have populations between 35,000 and 200,000; small cities have populations of less than 35,000. Comment generation rates varied dramatically across Oregon cities, from a low of .00015 in Salem (34 comments) to a high of .00607 in Medford (990 comments).

The analysis of the geographic distribution of the zip codes reveals distinct trends in comment generation. Proportionally, the greatest number of comments came from rural areas, followed by mid-sized cities, small cities and large cities. Table 1 identifies the distribution of comments by city size. The right-hand column is a measure of comment generation rate: the number of comments received from the city in proportion to its total population.

Table 1: Comments Received by City Size

City	Post Card Comments	Website Comments	Interactive Map Comments	Total Comments	Population	Proportion of Population Providing Comments
Large Cities						
Eugene	373	505	27	905	254,199	0.0036
Salem	18	16	0	34	227,709	0.0001
Portland	164	191	26	381	1,359,278	0.0003
Large cities total	*555*	*712*	*53*	*1320*	*1841186*	*0.0007*
Mid-sized Cities						
Medford	705	285	35	1025	163,149	0.0063
Roseburg	222	43	12	277	62,989	0.0044
Corvallis	63	130	6	199	68,152	0.0029
Coos Bay	69	14	2	85	41,242	0.0021
Klamath Falls	17	16	5	38	50,380	0.0008
Mid-sized cities total	*1076*	*488*	*60*	*1624*	*385912*	*0.0042*

Small Cities	*403*	*386*	*61*	*850*	*629,496*	*0.0014*
Rural areas	*478*	*251*	*24*	*753*	*170,636*	*0.0044*
total	***2152***	***976***	***120***	***3248***	***771824***	

Large Cities

Two of the three large cities in Oregon had very low rates of comment generation. Salem had the lowest rate in the state (.00015); Portland had the next lowest rate (.00026). Yet, Eugene had a relatively high rate (.00345). These numbers suggest on the one hand that residents of large cities may have less experience with BLM lands and less interest in BLM management. On the other hand, as in the case of Eugene, local controversies as well as policy networks and organizational activity may generate strong interest even in cities with relatively large populations.

Mid-Size Cities

Four of the five mid-size cities in the state were substantial comment generators with rates of .00201 in Coos Bay, .00283 in Corvallis, .00421 in Roseburg, and a high of .00607 in Medford. The relatively high rates of commenting in Coos Bay, Corvallis, Roseburg and Medford may reflect local controversies. In Medford, for example, high rates of commenting reflected a local controversy related to Off-Highway Vehicles (OHV). Residents of mid-size cities may also have more direct experience of BLM lands in comparison to large cities. For example, Klamath Falls had a very low rate, .00066 which we expected because it is relatively remote from BLM lands.

Small Cities

Small cities rank relatively low in the generation of both web and post card comments, with an overall per capita rate of .00125. Small cities have a large total population (about 630,000 residents) and so generated a sizeable number of comments (700), although this is a proportionally low rate. Small cities are important to the WOPR discussion in several dimensions. Residents of small cities in areas with BLM lands are likely to have experience with and knowledge of the agency. Moreover, small cities in these areas are more likely to be tangibly affected by BLM management decisions more than residents of larger cities. For all

these reasons, we expected a higher rate of commenting among residents of these places than we received.

<u>Rural Areas</u>

Rural areas rank high in the generation of comments with a total rate of .00427 comments per capita. Although rural areas have a relatively small total population (about 170,000 residents), they generated almost as many comments (about 700) as small cities, which have a total population about three times as large. We expected that rural areas would have high commenting rates because many residents have experience and knowledge of BLM lands and their uses of these lands are strongly affected by BLM management activities.

Commenters are highly concentrated by individual zip code. More than 50% of the total comments come from the top 20 zip codes, including seven zip codes from Jackson County, six from Lane County, four from Josephine County, two from Benton County and two from Douglas County. Commenters are also concentrated within each BLM district: a few zip codes are the source of a large percentage of total comments (Figures 7-12 Appendix 5). The balance of the comments is distributed across about 450 other zip codes, with the majority generating only a handful of comments. This distribution reflects a distinctive geography: strong attention to BLM policy in very few places and weak interest across most others. [6]

Commenting Technology & Community Size

There are also important differences between types of places with respect to use of commenting technology. We were able to explore this issue because BLM offered an unusually broad array of commenting options. Residents of large cities tend to submit more comments by web than postcard, although differences between the two types of commenting in these cities are not large. In mid-size cities, however, the differences are more significant. For example, residents of Corvallis submitted twice as many web comments as postcards. This pattern may be explained by its status as a university town: we would expect its residents to be web-savvy.

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[6] The social characteristics of zip codes suggest hints of a similar pattern. The top 20 zip codes in terms of comment generation tend to have incomes and educational attainment higher than the state average. The other zip codes have mixed incomes and educational attainment. Zip codes are a large aggregate of individual social characteristics, however, so it may be difficult to draw strong conclusions from this information.

Alternatively, residents of mid-sized Coos Bay, Roseburg and Medford submitted between twice and five times as many comments by postcard as by the web. Rural areas generated about twice as many postcards as web comments although the rate of web commenting was still relatively high.

Discussion

The patterns of comment generation suggest that three characteristics of places help explain why certain of them are more likely to generate comments than others. These are presence of local controversy, experience and use of BLM lands, and activity of policy networks. Small cities fall out of this "expected" pattern, however, and may require additional outreach efforts. Comment technology also appears to influence rates of comment generation.

Presence of Local Controversy

The large number of comments from Medford is presumably driven by the local controversy about OHVs. Conversely, the small number of comments from Klamath Falls, which is on the periphery of the study area, is likely due to the fact that the area may be less affected by WOPR and we presume that the DEIS has excited less controversy.

Experience and Use of BLM Lands

In general terms, the larger the city, the less likely it is to generate public comments about BLM lands at high rates. It follows that urban residents are likely have less personal experience with BLM lands than other residents of the state. In keeping with this pattern, rural residents—more likely than any other population group to have direct experience with BLM lands—were vocal in the WOPR public comment process. However, small cities, which we expect would be familiar with BLM lands, generated comments at a rate not much higher than that of the largest cities. This fact may reflect lack of knowledge of the public comment processing and inexperience in dealing with formal bureaucratic processes. Moreover, they may not tend to join policy networks of the kind that generate comment postcards. For these reasons, BLM may need to find additional methods of reaching out to small-city residents if proposed projects will have potential effects at this level.

Activity of Policy Networks

Submittal of postcards is typically organized by advocacy groups. The activity of advocacy networks may be reflected in the high rate of postcard generation in Medford, Roseburg and Coos Bay, which have experienced local controversy around BLM lands. It is also likely that the strong showing of Eugene in generating comments reflects the activity of environmental advocacy networks. These comments are hypothetical, however, because we have not investigated any of these specific cases.

In general, the findings from this section of the report underscore the importance of defining an appropriate commenting and outreach strategy. Different types of communities are more or less likely to make public comments depending on the comment technology supported by BLM and the types of controversies and policy networks associated with the decision. Commenting and outreach strategy appears to be very important in eliciting useful comments from certain types of places such as small cities.

2.4   PROFILES OF COMMENTERS

We profiled elements of commenters' relationship to place using commenters' responses to questions on the Interactive Map about visit frequency, activity and occupation[7]. While these results are useful for understanding the relationship of people to places, they are not necessarily representative of the characteristics of commenters in general. For example, we would expect those who make location-specific comments on the map to be knowledgeable about these areas because they visit them more frequently or are involved in the tourism industry.

Frequency of Visits

Visitors go to their places of interest (referenced on the map) with relatively high frequency. About 19% of the respondents go to these places daily and 14% visit at least once a

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[7] In addition to the profile questions on the Interactive Map described above, we also included four personal profile questions on the website. These included length of residence in Oregon; urban, suburban or rural residence; and affiliation. More than half the commenters on the website have resided in Oregon for more than seven years. Only about one-quarter of the commenters indicate that they are urban residents; less than a quarter report a suburban residence; and more than a third report a rural residence. The great majority of commenters indicate that they are not reporting on behalf of an organization. However, the types of organizations that are represented include the Blue Ribbon Coalition, Audubon Society chapters, local governments, community colleges, Society of American Foresters and Trout Unlimited.   See Tables 6 & 7 in Appendix 5.

week. About 19% visit once a month and 19% visit several times a year. The daily visitors almost all report that they are full-time residents of the places they indicate on the map. Visit frequency has only a minor relationship to how users describe their values. About a quarter of the respondents in each of the visit frequency categories indicate that they value BLM lands for species, scenic beauty, spiritual considerations or relaxation. There is a minor indication of a negative relationship between visit frequency and statements of spiritual value. About 16% of the daily users describe an orientation toward spiritual values, increasing to about 20% for infrequent users (1-4 times a year). See Table 9, Appendix 5.

Activities

The most prevalent active uses among commenters are hiking (144), photography (102), bird watching (93) and camping (78). Among motorized uses, OHV is most popular (58) and dirt biking somewhat less so (44) Fishing and hunting are in the middle range with 52 and 45 responses, respectively. This pattern of activities holds when the data are disaggregated to district. Hiking, camping, bird watching and photography are the three most popular recreational activities on BLM lands in all the districts, followed by mountain biking and motorized uses. A few districts diverge modestly from this pattern by emphasis. For example, Eugene has a disproportionate number of hikers. See Table 10, Appendix 5.

Occupation

The largest number of respondents in this group (205) indicated their occupation as tourism. The smallest number of respondents (18) selected ranching as their occupation. Respondents selected four other occupations in roughly equal numbers: government (58), industry (54), timber (87) and farming (72). It is notable that such a dominating proportion of commenters identify their occupation as tourism. This hints again at the general economic importance of BLM lands to the tourist industry, and more specifically, the importance to this industry of defined places and place-based activities on BLM lands. See Table 8, Appendix 5.

3. Comment Text Analysis

3.1 METHODS

We developed a content analysis methodology to conduct the most important dimension of our research, the comment review itself. Our goal in using detailed analytical tools was to help identify unique and significant themes within the sample of comments.

We are not aware of comparable research analyzing public comments on environmental or land use documents and developed this approach based on a combination of qualitative methodologies. Our method relies substantially on software used in qualitative research to organize and support interpretation of interviews and ethnographic data.

1. Data Processing – This research required extensive data processing activity, including: rebuilding data structure; removing personally-identifying attributes; creating ID and index fields; formatting data for entry into relevant software (Concordance, NVIVO and SPSS); importing data into the software; joining data from different coders; and exporting from the software. Our research team processed the comments extensively to create a unified, indexed database that could be shared among the major contractors on the project and provided a foundation for further analysis.

2. Initial Reading – For the initial reading, we defined comment groups representing different comment sources. We divided the overall universe of comments into these groups and assigned each reader a block of comments for preliminary review and category development. Every unique comment was reviewed. The purpose of this reading was to familiarize the team with the data, design and test our coding methods, guide the development of a draft taxonomy, explore patterns in the data, and identify working hypotheses.

3. Frequency Analysis – In the initial research stage we also conducted a frequency analysis of words and phrases using Concordance, a content analysis software program. A Concordance analysis counts and locates every word in the document, and thus allows for a fast and comprehensive breakdown of large amounts of narrative data. The program identifies phrases by linking words in the document according to commonly-found pairings. We used this frequency analysis to support development of the taxonomy. We present this frequency analysis in Appendix 3.

4. Development of Taxonomy – We constructed a draft taxonomy based on literature review, the DEIS table of contents and our initial reading of the data. We present our revised, final taxonomy in Appendix 1.

5. Development of Sample – Based on our initial reading of the comments, we developed a sample of 500 comments to analyze through a second reading. The sample was created by defining the proportion of unique comments represented by each of the comment types (i.e., scanned documents, e-mails, uploaded documents, map-related comments and DEIS-related comments), and randomly drawing the corresponding number of comments of each type out of the total pool. Our sampling method is represented in Table 2 below.

Table 2: Text Comment Sampling Approach

	Number of Unique Comments	Proportion of Total Comments	Number randomly selected for coding
Scanned Documents	1648	0.46	231
Emails	515	0.14	72
Web Comments	1405	0.39	197
Total Comments	**3568**	**1.00**	**500**

6. Training and Inter-Coder Reliability – In order to feel confident that each reader coded in the same way, we developed a program to test and train members of the team. We selected a small number of comments, and each team member classified the comments using all nodes on the taxonomy. We then compared this coding and assessed for inter-coder reliability. During the second reading, we met weekly to jointly review our classifications and coding.

7. Comment coding – The coding of comments relied on an extensive group process. The reading method was an iterative, mutually informing process supported by the relational databases created by the software. In the second analysis stage each team member read the sample of 500 comments and coded these using NVivo, a content analysis program. NVivo software enables complex coding of written and visual material. NVivo software creates a

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relational database from which relationships between themes and subthemes can be more readily understood.

We organized the reading into four substantive areas that paralleled primary categories in the taxonomy, with each team member responsible for a single area. These primary areas are described below. We updated our taxonomy at key points during the project to capture emerging themes and arguments. Overlaps in coding helped identify particular perspectives and perceptions of users.

Coding occurred as a two-tiered process. The primary purpose of this baseline coding process was to ascertain where respondents' interests lay. Additionally, throughout the coding process, categories were added as they emerged from the reading of the comments. There was a high probability that a given statement would be coded more than one time in the taxonomic structure. For example, depending on its context, a descriptive comment about the natural environment might also be coded as a statement of utility, a statement of place and a statement of position. These related frameworks overlap each other, allowing for group interpretation of the underlying attitudes captured in the comments. Our team derived and summarized themes from the coding into the four categories below.

8. Analysis – We then assembled the classifications of all team members into a single database. Team members reviewed this database and common statement types were identified for each thematic area. We assessed relationships and redundancies across thematic areas, and identified key overall statement types. We synthesized and assessed these for the frequency with which they appeared, their significance, and their relevance to BLM. The final set of statement types were then reinterpreted by the researchers for what they revealed about attitudes toward public lands management and WOPR.

3.2   FINDINGS

We organized our key findings into three primary themes: resources; values and utility; and governance. These describe the logical structure underpinning many of the comments, including (1) definition of the topic; (2) discussion of the deeper rationale for an argument or opinion about the topic; and (3) critique of the governance structure in which land use decisions are made. Two other components of many comments were an explicit statement of position and

technical arguments in support of the position. We did not emphasize either of these but rather focus on attitudes underlying these positions.

Resources – This is the statement of the WOPR-related subject in which the commenters express interest. We began our classification of resource themes using categories from the table of contents in the DEIS and added other topics as our research progressed. In this section we focus on how comments are classified and how commenters approach and describe their subject of interest. Commenters often express interest in multiple topics and systems involving relationships among resources.

Value and Utility - A second component of many of the comments is a statement of underlying values or utilitarian motives that provide the impetus for the commenter's argument or opinion. Values are defined as underlying philosophical or ideological attitudes toward management of public lands. Utility is defined as an occupation, hobby or other aspect of a respondent's life that leads them to think that they will benefit directly from one of the plan alternatives.

Governance – A third component of many comments focuses on the legal and bureaucratic frameworks that govern land use decisions. These are statements regarding goals of land management; regulatory practices; scientific, legal and other foundations for decision-making; framing for the WOPR decision; and processes of public participation. These comments also include statements of specific positions on WOPR. Each of the following sections describes the comments that address these three themes. Within each theme, the comments are categorized more specifically.

Appendix 2 provides a frequency count of all taxonomy subcategories and Appendix 6 provides detail and summary of each category which are illustrated with representative quotations drawn from actual comments.

3.2.1   Resources

The public comments in this category focus primarily on statements about the effect of changes to or abandonment of the Northwest Forest Plan (NWFP). We began our reading of the resources-themed comments on the assumption that the topics would follow the table of contents

of the DEIS, but found that commenters' topics went outside of those listed in the DEIS in some cases.

Several highlights emerge from this section. Commenters tend to discuss resource issues in terms of complex and overlapping ecological, economic, political and social systems. As a result many of the comments refer to multiple topics. Comments are frequently framed by personal experience. There is some disparity between the topics listed in the DEIS and the topics discussed in the comments. For example, while there is great emphasis on endangered species in general, the Spotted Owl and Marbled Murrelet are mentioned very infrequently. In the discussion below, we divided this theme into three sections: Natural Environment, Recreation, and Socioeconomics.

3.2.1.1 Natural Environment

The largest proportion of comments regarding natural resources concerns timber practices discussed from a variety of perspectives and they address both old-growth and second-growth forests. A significant proportion of comments address issues related to forest ecology, including general ecological concerns as well as wildlife habitat. Other areas of concern are transportation access, climate change, wildfire, threatened and endangered species, fish habitat and water quality. The list of comments in Table 3 expresses the range we discovered in our samples.

Table 3: Comments Addressing the Natural Environment by Frequency

	Count	Percentage*
Water	606	23
Timber (Old Growth)	449	17
Forest Ecology	395	15
Timber (Second Growth)	188	7
Fire	149	6
Access/Transportation	125	5
Threatened/Endangered Species	117	4
Climate Change	97	4
Visual Resources	86	3
Realty/Ownership	75	3
Timber (Timber Harvest)	69	3
Soil	66	2
Spotted Owl	56	2
Noise Pollution	45	2
Flooding/Landslides	36	1
Air Quality	34	1

Botany	23	1
NLCS	18	1
Areas of Critical Environmental Concern	13	0
Special Forest Products	12	0

of total coded resource statements

3.2.1.2 Recreation

These comments focus on recreational uses of areas managed by the BLM. There is a dichotomy within the coded structure. Broadly construed, there are two camps of recreationalists: those who engage in motorized recreation and those who do not. OHV users are both pro- and anti-logging and hold divergent opinions about trail use. Other users like hikers and multi-sport users are more uniform in their desire to recreate in old-growth forests undisturbed by noise. Table 4 shows the range and frequency of comments addressing recreation.

Table 4: Comments Addressing Recreation by Frequency

	Count	Percentage*
OHV	159	0.39
Hiking	56	0.14
Passive Recreation	41	0.10
Non-Motorized Transportation	29	0.07
Hunting	28	0.07
Fishing	26	0.06
Horseback Riding	22	0.05
Bird Watching	16	0.04
Water Sports	11	0.03
Bicycling	9	0.02
Camping	9	0.02
Picnicking	2	0.00

of total coded recreation statements

3.2.1.3 Socioeconomics

This theme refers to a variety of economic, historical and cultural concerns related to local communities. An argument pervades the comments that economic growth should focus on preserving these resources for the sake of tourism rather than exploiting them and perpetuating the boom/bust economy. Table 5 shows the range and frequency of comments addressing socioeconomics**.**

Table 5: Comments Addressing Socioeconomics by Frequency

	Count	Percentage*
Local Economy	170	24
Cultural Resources	159	22
Fiscal Condition of Local Governments	92	13
Timber Industry	78	11
Local Community (Conflict& Controversy)	77	11
Quality of Life	58	8
Tourism	43	6
Property Value (Residential)	23	3
Grazing	8	1
Mining	3	0
Environmental Justice	2	0

of total coded socioeconomic statements

3.2.2 Values and Utility

This theme focuses on statements that reveal writers' motivations or rationales for their opinions. These comments may be general or specifically reference an opinion, theme or place. The key finding of this section is that commenters express intense emotion; mostly expressed as frustration but also sadness and fear about potential change. They fear losing a way of life as a result of WOPR alternatives. This frustration comes in many forms because BLM lands play a large and cross-cutting role in the lives of Oregonians—from recreation, to work, to manifestation of values. The environmental ethics demonstrated by the comments also crosses issues including the environment, health, economy and recreation.

3.2.2.1 Statements of Utility

Statements of utility refer to an aspect of the respondent's community, economic life or lifestyle that may change under WOPR. Generally, the comments express concern that these are being threatened. Commenters have made decisions based on the current state of the forest and they feel it would be unfair to take away something that they count on to maintain a certain mode of life. Typically, the more unique the physical place, activity, and/or purpose, the greater its perceived utility. Utility, or user needs, are closely linked to home, work, resource/functional

attributes, and play/recreation, but also include less tangible things, such as scenic beauty, quiet and relaxing settings, and communing with nature. Comments expressing these types of needs are grouped into four categories of Utility: professional, recreational, relating to an organized group, and relocation/visiting.

1. *Professional utility*. These comments refer to an occupation or volunteer position that the writer has held that gives them a personal interest or experience related to the issues.

2. *Recreational utility*. These comments indicate that the writer engages in a specific recreational activity that they are interested in protecting or that has given them a unique set of experiences in relation to plan issues. Hiking, OHV use, fishing, camping, hunting, and horseback riding are some of the recreational activities mentioned.

3. *Relocation/Visitor utility*. These statements describe an aspect of life in Oregon that drew the commenter to relocate there, but that the commenter feels may be threatened by WOPR actions. Relocation can include retirement or the decision to attend school in Oregon.

3.2.2.2 Statements of Value

Values are defined as underlying philosophical or ideological attitudes toward management of public lands. Whereas utility and authority statements tend to be "I" statements, value statements are more general. These statements represent the core beliefs from which opinions follow. They tend to be very strongly expressed statements of a moral nature that the commenter uses to trump other arguments.

Five themes were created by analyzing common values expressed in the comments. These are overarching concepts that likely influence writers' opinions about plan alternatives. Most themes demonstrate how a similar concept can be viewed in both a pro- and anti-logging context.

Maximizing Forest Resources

The comments described below juxtapose alternative views on the best use of the forests. There are those who feel the intact forest provides the highest value. In contrast, there are those

who feel timber harvesting is the best use of the forest. The local economy and the condition of the local governments represent an oft-emphasized cluster or system of proposed initiatives and predicted repercussions of these initiatives. A majority of the comments on the local economy focus on trajectories of planning that will reduce the area's dependence on the logging industry. Tourism, especially eco-tourism is touted as reason enough to leave the old-growth forests standing.

Forest Values Are Maximized by Preservation - The largest single type of value statement addresses the alternative value of forests. These authors state that the forest should be valued for its many benefits—both non-economic and economic—besides timber. Some people stress that "it's not all about money" while others emphasize the economic value of forest preservation. Many authors express frustration that these values are not considered in WOPR. The value of the forest as habitat for other species is most commonly cited as an alternative value along with recreation/tourism. Many people also mention the public health benefits like clean water and fresh air. Several comments mention the forests as a carbon sink and a source of products like medicine. The global scale of these non-economic values is frequently mentioned as well. There is a substantial amount of comment on the need to be flexible as an organization, industry or individual during uncertain and changing times. This cluster of comments is rooted in the perceived need to change the trajectory of Oregon's development and the feeling that Oregonians have the wherewithal and gumption to imagine and enact an alternative future.

Variation in Time Frame of Desired Forest Benefits

Another stark comparison between authors is the time frame in which they view the value of forests. Many are concerned with the impact logging will have on the future, or the heritage value of forests. Others are concerned with the value timber has in the present.

Heritage Value

Several categories of statements address the heritage value of forests. These statements contrast from statements of utility in that they focus on the benefits that forest can provide in the future. They imply that logging is a selfish act that robs the future of the benefits we currently enjoy. Rather than focusing on the current benefits of the forest these comments stress that a low discount rate that should be applied to the value of forests. This argument centers on the claim

that the exploiting the natural environment to solve current financial difficulties is rooted in a worldview that is not compatible with a modern political, social and environmental understanding of the world. Respondents on this side of the discussion claim that the long-term survival of these communities is tied to the forests and that destroying them will eventually destroy the communities themselves.

Similarly, many writers are frustrated with the focus on logging that they see a very short-term solution with long-term negative consequences. They feel that economically logging is not as viable as other forest values discussed above. Many writers express distress that the small fraction of remaining old-growth forest is being considered for logging. They feel we should not destroy what little is left of an irreplaceable resource. To these respondents, the scarcity of forests is reason enough not to cut it down.

Current Use Value

Several authors express the value that using timber now is the best use of forests and the best means of ensuring the current wellbeing of residents. This is usually stated as an economic argument that sometimes addresses the needs for a balance of uses and local control. Many respondents claim that something must be done soon to stabilize local economies and fund local counties and municipalities. This argument focuses on the current fate of underemployed citizens and financially strapped public service providers.

Private Use of Public Lands

This is a fundamental debate about the role of public lands in serving the public interest. It falls into two categories: *1) Private Use of Forests Does Not Serve the Public Interest.* Many writers believe the forest should be preserved for public uses like recreation and other values listed above, and that private use by logging interests degrades these values. They feel that public lands should not be used to serve private interests. *2) Private Use of Forests Serves the Public Interest.* Another group of authors feels that the economic activity provided by private logging of forests benefits the public, and that public lands are to be used for resources that benefit the public.

Understanding of Logging Consequences

A fourth point of contrasting values regards the validity of environmental claims against logging. Many authors express frustration that WOPR disregards the lessons of science and experience, while others feel strongly that these claims are overblown by environmental advocates.

3.2.3 <u>Governance</u>

This section reviews primary positions and types of judgments, evaluations, arguments and attitudes expressed with respect to a theme or issue. Commenter positions on WOPR alternatives as well as other expressions of opinion that do not address WOPR alternatives are also addressed. Comments such as those directed at the Bush administration and general distrust of the government or environmental organizations are also included in this section.

The comments included in this group address WOPR's management frameworks as well as specific positions on WOPR alternatives. Several themes emerge from commenters' positions on WOPR: BLM's goals in proposing WOPR, the emerging conflict between BLM's mandate and WOPR, the scientific basis for WOPR, and the decision making and public participation processes and the DEIS document itself.

Many commenters express a lack of faith in government and the process that created WOPR. Commenters are confused about BLM's goals, mandates and legal requirements, and lack confidence in the science. They argue that there is a need for independent review. Some commenters express the belief that WOPR alternatives are not viable because of likely legal challenges. Many state that they feel disempowered by the WOPR process because a decision was made before they had a chance to participate. Many argue that they have difficulty digesting the WOPR document because of its organization and complexity, or lack time or knowledge to make use of the document in its current form. Commenters believe they are required to have some type of authority in order to have a voice in the process, although some resent the requirement.

BLM's Goals

One of the primary concerns several commenters raise is that they feel WOPR alternatives are inconsistent with BLM's mission. Many of these commenters argue that because BLM, along with other land management organizations, was created to conserve and protect forests, BLM should promote forest restoration rather than industrial logging. Commenters argue

that implementation of WOPR would diminish the protection of land, air and water quality and lead to an environmental disaster, including climate change and human health impacts. Alternatively, they would like to see clean water maintained by protecting watersheds, rivers, and streams from sedimentation and temperature changes. Some commenters state that it is critical for BLM to preserve and maintain the few remaining wild places that many species, especially threatened ones like the spotted owl, need for long-term survival. Some remind BLM that Oregonians have affirmed their position several times in the past; they would like to continue enjoying the scenic and natural beauty of their state. Many people feel that BLM goals are not being met because the process was politically driven to emphasize timber production at the expense of other public values, including fish, wildlife, watershed, water quality, soil and recreation.

Alternatively, some commenters express the opinion that it is in BLM's mandate to consider diverse needs, including economic and social concerns. Commenters also argue that the timber harvest can continue safely despite the impacts on wildlife and water. Many respondents who support WOPR view timber as renewable and argue that with proper conditions and limits harvesting can be beneficial to preserving forest and creating diverse habitat. They feel that BLM has the discretion to do what is necessary because the O&C lands are not nature preserves and should be managed for multiple uses. The economic viability of rural communities is also important to WOPR supporters.

Legality

A second theme related to governance concerns the legality of WOPR. Several commenters argue that proposed WOPR alternatives are illegal and can be challenged in court because they violate the NWFP. They cite examples where NWFP has been upheld by the courts over the objections of the timber industry. Further, some respondents object to agency interpretations of the O&C Act, arguing that because the O&C Act gives BLM wide discretion to conserve forests, protect watersheds and stabilize communities, by law BLM lands cannot be used as part of the reserve system designed to recover protected species. WOPR's Alternative 2 is also believed by some commenters to be in violation of the Endangered Species Act and the Clean Water Act.

Science

Some commenters also question the scientific basis for the BLM proposals. These commenters argue that WOPR ignores the intricacies of the natural world and is at odds with recent scientific research regarding the significance of old-growth forests in the Pacific Northwest. They also contend that the NWFP was based on scientific reviews and no significant changes have occurred in biological science since the time the plan was developed. Some commenters state that BLM does not take into consideration the scientific facts about global warming. Others suggest there is a need for independent scientific peer review of the entire WOPR.

The greatest concern expressed in these comments is the proposal to harvest mature and old-growth forests, since commenters believe that research shows they are the most efficient carbon sinks and support diversity of the fauna and flora necessary for healthy forests. Other proposals of concern include the use of clear-cutting as a harvesting method. These authors feel that clear cutting has been proven to be an inefficient method of harvesting timber and is only good for gaining maximum profit in the short term at the expense of the entire ecosystem. Another concern is the proposed reduction of the riparian buffers to 100 feet and the proposal to allow logging within 25 feet of stream banks. Authors do not think the BLM provides proof that their alternatives have been tested and are safe for Oregon's water and air quality.

A number of respondents speak to what they consider to be unresolved issues in the modeling and interpretation of results and other issues that relate to the Analysis of Environmental Consequences.

Public Control of Resources

Many commenters are concerned about the ability of local agencies to oppose and resist pressures from industry and federal government. The belief is that although the agencies were created to manage and protect local needs, they are now controlled by outside interests. There are concerns about the federal government's powers to allocate local resources without concern for local needs or environmental consequences. A few commenters alluded to greed when describing the deeper motivations behind WOPR. They criticize the BLM, asserting that public satisfaction and enjoyment should be given priority over industry profits. Given the perception that local needs are disregarded, commenters wonder if their opinions make a difference despite solicitation.

<u>Voice and Participation</u>

The process chosen by BLM to solicit public comment on WOPR is criticized by many commenters. They also criticize the content of the DEIS as too long and technical. Some commenters suggest the public has not been provided enough time to understand the issues and respond by the announced deadline. There is also general discussion in these comments about the relationships between resource management agencies and the public. Commenters point out that the land management agencies should keep citizens informed about their plans and more fully justify their intentions to avoid distrust. Some commenters express the argument that transparency reduces conflict between citizens, industry and agencies. Many of these comments do not refer to WOPR specifically but rather to BLM and resource management processes in general.

<u>Statements of Authority</u>

Statements of professional or educational credential frequently cite an environmental or natural resource background that the commenter uses to provide legitimacy for their opinion. Statements of witness based on personal experience are also offered, often as an observer of the consequences of logging. Statements of citizenship, on the other hand, are based on a right to have one's voice heard as a resident of the state or country, regardless of expertise or experience. Yet, many people strongly object to the idea that they need to have any authority to be a valuable participant in the WOPR debate.

Similar to values, authority statements often express the commenter's frustration that they have knowledge or a right that has been ignored in the alternatives—even if it is just their position as a citizen. Some authors use these statements to support alternatives. Either because they have studied, seen, or experienced the consequences of logging, they see themselves as an authority with a right to be a part of the decision-making process.

Authority statements are based on specialized knowledge the commenter has from personal experience that gives them a right to have their opinion considered or a rejection of the idea that they need authority. These tend to be "I" statements.

1. *Professional/educational credential.* These statements relate to a professional degree or work experience that the commenter uses to establish expertise on the subject. For

example, the commenter may cite credentials as a professional in biology or other natural resources field.

2. *Role as citizen*. These comments refer to a specific role in society held by the commenter that they feel gives them a unique perspective and right to be heard. These are rather straightforward comments that generally use the words "resident," "citizen," "voter" or "taxpayer."

3. *Witness to potential consequences*. These statements describe a personal experience the commenter has had that leads them to feel knowledgeable about the consequences of plan alternatives. These frequently involve having seen first-hand the effects of past logging or OHV use.

4. *Disputes the need to be an authority*. These statements express dismay at the idea that a citizen should need to have any authority to have a legitimate voice in the WOPR decision making process.

3.2.4 Relationships among Themes

In order to measure the relationship among themes we conducted a cluster analysis. Cluster analysis offers a method of statistically grouping cases or variables into clusters that show high levels of similarity. In our study, we wished to see if certain themes (variables) would group (cluster) with other respondent themes, e.g., whether access restrictions and OHV use were mentioned in concert by respondents or if these two variables were independent of each other. Our results revealed four primary clusters of themes. See Appendix 7 for a complete description of methodology and results.

Use of a Variety of Arguments

Our cluster reveals that most of the variables are interrelated at a low level. This result points to the conclusions drawn earlier in this report, namely, that respondents generally use a variety of arguments in their comments including policy, economy, culture and the natural environment. Moreover, respondents attempt to communicate this broad knowledge through the mention of disparate policy and environmental elements within single statements.

Interconnectedness of Ecological Systems

This cluster is constituted by four variables—forest ecology, old growth, timber (general) and water (general). This indicates that there exists a focal point of public opinion centered on the ecological interrelationships between forest and aquatic systems. This result comports with our qualitative analysis, which indicates a complex network of opinion centering upon the relationships between water quality and overall forest health.

Interconnectedness of OHV and Other Recreation Interests

This cluster is constituted by three variables—access and transportation, non-motorized recreation and OHV. This indicates a dense agglomeration of opinion around the use of OHVs in BLM lands. As expected, the use of OHVs on public lands is a contentious topic in Oregon.

Relationship between Policy and Ecological Effects

This cluster is constituted primarily by policy-rooted variables. Themes including BLM policies, WOPR purposes, fires, threatened and endangered species, long-term effects, and statements about other organizations, among others, point to a clustering of opinion around the enactment and ramifications of land use policy. This corroborates the findings of our qualitative analysis. There exists a nexus of opinion centered on the BLM's ability to effectively manage forests within the welter of the regulatory, economic and natural environments.

4. Analysis of Place-specific Data & Comments

4.1 METHODS

We analyzed the relationships of individuals to particular places by reviewing the comments about place generated through the interactive map, from personal information entered by commenters on the interactive map and from text analysis of place-specific comments. The Interactive Map was constructed around a series of dialogue boxes that offered users the opportunity to comment on specific places, identifying them with the help of Google-style graphics placed on a high-resolution USGS map. The user also had the opportunity of overlaying additional maps describing resources and DEIS alternatives. Our Interactive Map analysis questions focus on characteristics of users and user activities on BLM lands.

4.2 DISTRIBUTION OF INTERACTIVE MAP COMMENTS

Natural Features and Planning Areas

Mappings of ecological characteristics provided a vehicle for exploring the interests of users in specific places, and the kinds of concerns the patterns of these interests may arouse. We examined landscape characteristics by creating an overlay of locations users identified on the map with underlying ecological features—namely, proximity to streams and sensitive habitat areas. Some ecological characteristics are not important to users. For example, very few users identified points of interest within 100 meters of a stream. Other characteristics appear to be of strong interest to commenters. A large number of users identify points of interest within areas identified as Marbled Murrelet or Spotted Owl habitat. Some of these commenters explicitly express concern about habitat for these two species; others appear not to know that these are habitat areas. See Figure 17 in Appendix 5.

Hot Spots

The heaviest geographical concentration of comments is in the Medford area. These comments focus on issues related to OHVs and the proposed designation of an OHV emphasis area. Opponents of the emphasis area comment that it will create noise, congestion and air pollution. Advocates argue for rights of access and social benefits of OHV use. Public and private ownership is tightly interspersed in this area, which may exacerbate the externalities of OHV use. See Figure 15 in Appendix 5.

4.3 COMMENT TEXT ANALYSIS: PLACE ATTACHMENT

The focus of this section is on personal experience of place either as a visitor or adjacent landowners, and how BLM management activities affect this experience of place. Place is defined as a spatial setting that has been given meaning based on human experience, social relationships, emotions, and thoughts. Place attachment is broadly defined as an emotional, physical, and cognitive connection of an individual, or group of individuals, to a particular place.

Place identity coincides with self-identity, self-esteem, community belonging, and development of values.[8] Many comments suggest that identification with a place can be very personal and very connected to a sense of self, giving meaning and purpose to life beyond a physical need. Comments indicate that BLM lands contribute to individuals' sense of self-identity. Without these special places, people feel lost, as if part of them were dead or missing. Key indicators of personal identification include emotional connections or references, social relationships developed in a particular place, spiritual relationships, memories of a place, symbolic meaning of a place, sense of ownership or belonging to a place, environmental responsibility towards a place and histories of a place.

A variety of types of place attachment are suggested in the comments. In these comments, physical environments are typically identified by name of location (Oregon, John's Peak, Bend, Spokane, etc.), region (Western Oregon, Pacific Northwest, Western States, Portland's East Metro Region, etc.), districts (Salem District, Eugene District, Roseburg District, etc.), or type of physical environment (BLM lands, my back yard, urban area, natural area, swamp, watershed, forest, etc.).

The reviewed comments reveal strong attachments to very specific and unique habitats as well as to the "forest" as a living icon representing Oregon and the people who live there. These comments may reference human experiences, social relationships, emotions, and thoughts about a place. One of the most frequently-expressed types of place attachment concerns the importance of BLM lands for families. These places are part of family rituals (weekend hikes, OHV yearly trips, daily excursions, and more) and hold special meaning as a result.

Comments capturing emotional attachments and memories of using BLM lands became apparent during our reading of the comments. Spiritual appreciation of old-growth forests and natural ecosystems also emerged as a core component of the comments. Family values, interests, and histories were also revealed. Relationships to places vary in intensity from person to person and place to place, however. Typically the longer someone has been using a place, the stronger their level of attachment - but that is not the only determinant. Significant life experiences may also create stronger emotional attachments. Memories of a place and time can be reinforced and romanticized over time leading to a heightened sense of attachment as well.

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[8] Stedman, 2004; Tuan 1977; Altman & Low, 1992; Giuliani & Feldman, 1993; Williams & Vaske, 2003

Also, it appears that the closer people live to BLM lands, the more likely they are to claim ownership and rights to public natural resources. Several respondents state that they have lived next to BLM land or in close proximity for the majority of their lives. Many purchased their homes specifically because they wanted a "pristine" forest next door but seem to be unaware of the implications of living next to public lands. There is a sense that this public land should be a resource for their pleasure and not a resource for federal income. Many respondents moved to their current residence because of the quality of life associated with BLM areas, specifically Oregon's deciduous forests, rugged terrain, and cold water creeks.

4.4 DISCUSSION

Experience of place was a prevalent theme in many of the comments. Non-mechanized and passive uses (hiking, photography, bird-watching and camping) dominate descriptions of the activities that people do in the specific places in which they are interested. Many of the commenters who express interest in specific places reside in the immediate area; others visit it frequently. The strongest ecological pattern emerging in the geographical distribution of comments concerns Spotted Owl and Marbled Murrelet habitat areas. Commenters expressed interest in these areas even though in many cases they did not specifically mention these species. An important place-related issue emerged in the Medford area related to conflict between OHV users and local homeowners.

In general, commenters express a strong identity with place and are concerned about risks to the character of the place that gives them personal identity. In many comments, Oregon is defined in terms of specific environmental characteristics such as pristine waterways and old-growth forests. Many commenters suggest that this environment and what it provides for them is irreplaceable. Commenters also express concern about specific places on BLM lands. For example, hikers are vocal about specific trails. In particular, those who live adjacent to BLM lands project a sense of entitlement often centered around quality of life, access, real estate values, noise and traffic.

5. Conclusions

5.1 ATTITUDES TOWARD PUBLIC LANDS MANAGEMENT

Although many different viewpoints are revealed though the comments, an underlying tone is one of frustration. Those who are opposed to logging express frustration based on what they see as disrespect for nature, corporate control, lack of acknowledgement of scientific foundation for preservation and lack of learning from the past. Those who support increased logging are frustrated that its immediate economic benefits are being questioned by other interests. Arguments are often framed as an argument between individual and collective interests. For example, commenters recommending expanded timber harvest argue that the harvest is in the collective economic interest of rural communities and the state at large, as well as in the individual interest of loggers. Many OHV users comment that their sport engenders familial and social bonding. They see their impact on the environment as minimal and claim that this cost is outweighed by the value of personal and familial recreation as well as constitutional rights of access to public lands. The anti-OHV camp argues that the sport is noisy, polluting and environmentally destructive, and places too high an external cost upon other recreationalists and land-owners. Similarly, WOPR is frequently placed in a broader national and global framework. There are many respondents who feel that Oregon should be allowed to take care of its own problems without oversight from larger bureaucratic organizations. For example, the Endangered Species Act and global warming are seen by some as an unfair burden that Oregon must bear. Other respondents describe the importance of placing Oregon and its environmental policies within larger national and global frameworks. Statements about utility, values and governance highlight the significance of this analysis for broader issues of governance within BLM. When discussing values and utility, commenters conveyed intense emotion. They are concerned with their own lifestyle but also with the health of the environment and economy.

5.2 COMMENTER RECOMMENDATIONS FOR BLM

The comments contain numerous recommendations that pose interesting challenges and opportunities for BLM. We focus in this section on four threads of discussion in the comments that suggest opportunities for BLM to refine or redefine its articulation of the agency's public role in Oregon. Using the comments as a guide, these opportunities include (1) public discussion about values and goals for public lands management; (2) management of amenities; (3) public outreach strategy; and (4) reassessing public participation processes.

Engage in Public Discussion of Values and Goals

As suggested in the last section, commenters are anxious to talk about principles of public lands management. A large percentage of comments are rooted in broad discussions about humankind and its relation to nature and natural systems. Many emphasize the complexity and interconnectedness among natural and social systems. Some commenters present an ethical position that nature is a self-correcting system and that humankind's impacts upon this system should be minimized. Others—those both for and against WOPR—suggest that it is humankind's ethical responsibility to manage natural systems. A variety of other management philosophies and principles of practice are reviewed. In general, the breadth of discussion in these comments suggests a strong interest in ongoing conversation about values and goals and how the agency can achieve them. This suggests an opportunity for BLM to engage the public in Oregon in a discussion about public lands management.

Develop Systematic Outreach Strategy

WOPR commenters could be viewed as a slice of BLM's constituency or potential constituency in Western Oregon. From this perspective it may be useful for BLM to understand who is offering comments. Participants in this group are clearly not the classic BLM stakeholders. We can identify the group fairly precisely in terms of zip code. The great majority of comments in the sample (over 3,000) came from large and mid-size cities. Rural residents were active commenters but because of their low population, only about 700 comments came from rural areas. Small cities had a low rate of commenting although because of their relatively large population, they generated about 700 comments in total. In general, WOPR commenters tend to live in a small number of places, with about 20 zip codes responsible for 50% of the comments. They are also broadly distributed, however, with the other 50% of commenters spread

across the other zip codes. This geographical distribution suggests several opportunities for BLM. First, there may be an opportunity to actively talk to or cultivate a broader constituency among people in the large and mid-size cities that represent a large majority of the comments. Second, there may be an opportunity to expand communication with both traditional and underserved BLM constituencies by thinking strategically about where public outreach efforts are most needed.

Enrich Public Participation Processes

The comments also suggest the value of using WOPR as a guide for enriching public processes. Specifically, commenters suggested that the DEIS did not address topics of concern to them. For example, according to many commenters, climate change and wildfire were not adequately addressed in the DEIS. Other comments emphasized the difficulties of reading the document and understanding how to respond. Some commenters criticized the public participation process. As suggested above, improvements could include targeted outreach to the relatively small number of zip codes that are likely to generate comments (e.g., in large and mid-size cities) or targeted outreach in areas important to BLM where commenting rates are likely to be low (e.g., some small cities).

Importance of Amenities

One of the conspicuous aspects of the WOPR comments is the weak representation of traditional resource industries including logging, mining and grazing. Instead, commenters with interests in communities, heritage and economic resources focus on BLM's role in production or protection of amenities. According to the comments, amenities help define and sustain places, are used in tourism strategies and support recreational opportunities as described below.

Amenities define place – Many of the comments describe emotional attachment to a specific physical environment, a package of landscape characteristics that together make up Western Oregon, and are linked almost to a sense of self. Commenters express strong identification with what they perceive as the essential physical character of Western Oregon in general as well as specific locations within it. They are concerned about risks to the character of the place that may affect memories and the quality of their future experiences.

Amenities define "home" –Adjacent landowners focus on protection of natural amenities near their homes and safety from wildfire in forested environments that are amenity-rich. A large number of comments emphasize creation of natural settings for residents of lands adjacent to BLM. Trees are considered an important aspect of this setting, and these landowners tend to be opposed to WOPR. Safety is another consideration expressed in the large number of comments about wildfire.

Amenities provide economic development and tourism – Many commenters focus on opportunities for use of BLM lands to expand tourism. To this end, some commenters would like to see a broader economic analysis, including an analysis of alternative values of forests.

Amenities provide recreation – Many comments focus on recreation. Passive recreationists generally express interest in maintaining integrity and quiet in the forests. OHV users appear to be a heterogeneous group with divergent environmental values.

5.3   LEARNING FROM PUBLIC COMMENTS: OPPORTUNITIES FOR A NEW APPROACH

The comments we analyzed offer an opportunity for learning about the characteristics, attitudes and concerns of residents toward BLM and public lands management. Our research suggests that a wealth of information is created through commenting process beyond what is required by the NEPA process. With an investment in the data collection process and analysis methods, public comments could be evaluated cumulatively as an on-going source of information about uses and users of BLM lands. The four methods we explored in this project (geographical analysis; comment text analysis with respect to themes; analysis of place-specific comments and commenter profiles) could be replicated in other BLM planning contexts. Public comments may help guide four types of processes following the RMP/EIS decision. These occur at different levels of the BLM organization, suggesting that methods must be developed to make information derived from public comments available to different parts of the organization.

- *General Scoping* – This type of analysis could be useful in the general scoping phase of plan development in which all comments, not just substantive comments, are considered. Such an analysis could guide the substance of the plan as well as education and outreach efforts. Analysis in the scoping phase could then provide a framework for subsequent analysis of the DIES-related comments.

- *Plan Implementation* - Public comments may help in design of various activities related to plan implementation. These include development of implementation strategies, budget requests, authorizations, and site-specific planning. For example, with respect to site-specific planning, commenters may include individuals with specific concerns related to the site. These individuals could be contacted during the scoping process for an implementation plan.

- *Plan and Program Monitoring* - Public comments may provide guidance for monitoring activities. For example, comments may be used to define issues to be considered in plan and program monitoring.

- *Plan Updating* – Comments could also be used to inform plan evaluations and updates. For example, evaluations and updates could address geographical areas and resources considered sensitive to the commenters. Comments could help in development of an adaptive management plan such as laying out the thresholds or trigger points for changing a management action.

- *Assessment and Policy* – In addition, comments can provide a framework for external oversight by Congress, the Government Accounting Office and the Inspector General. Likewise, it could provide a foundation for internal oversight such as with respect to OMB Circular A123 requiring agencies to assess programmatic risks. Finally, comments can provide a basis for further programmatic change through rule-making, statutory revision, congressional action, and national or regional discussion.

Five further recommendations emerged from this work about implementation of an expanded public commenting approach within BLM.

- Coding and classification of attitudes and values was time-consuming and costly in this initial project. Later projects could build on the categories developed in this work and will likely be less expensive.

- Frameworks for this kind of analysis should be established before the beginning of a public comment process. Agency protocols for commenting may need to be modified to ensure that appropriate information is generated at low cost.

- This research approach may also be useful in assessing change in attitudes over time and comparison against benchmarks. If comment analysis of this kind were conducted for multiple and sequential projects, it could generate a rich dataset for use in time-series analysis and as a basis for establishing benchmarks.

- At this stage of our research, findings from the two geographically-linked methods (comment distribution/commenter profiles and place-specific analysis) have the most obvious applications in agency management and implementation processes. Attitudinal findings may require a stronger, comparative context to be directly useful in plan implementation.

- A proportion of WOPR comments were not useful for our analysis. Many of the comments, even those with unique wording, were repetitive in their tone and content or vague in their reference. We were struck by how few comments specifically addressed the alternatives, the DEIS or even WOPR itself. There is still much work to be done in encouraging people to make comments that are thoughtful and expressive of a genuine, personal opinion.

6. References

Benfield, F. Kaid. 1985. The Forest Service: Can it learn to listen? *Environment* 27(7): 4-5, 44.

Bureau of Land Management. 2008. *National environmental policy act: Handbook H-1790-1.* Washington, D.C.: United States Department of the Interior.

Bureau of Land Management. Undated. BLM Planning Process & Schedule. http://www.blm.gov/or/plans/wopr/process.php

Bureau of Land Management. Undated. Settlement Documents. http://www.blm.gov/or/plans/wopr/settlement.php

Bureau of Land Management. Undated. O&C Lands Act of 1937. http://www.blm.gov/or/plans/wopr/oclands.php

Council on Environmental Quality. Undated. CEQ - Regulations for Implementing NEPA. http://ceq.hss.doe.gov/nepa/regs/ceq/toc_ceq.htm

Council on Environmental Quality. Undated. NEPA of 1969. http://www.nepa.gov/nepa/regs/nepa/nepaeqia.htm

Germain, Rene, Donald Floyd, and Stephen Stehman. 2001. Public perceptions of the USDA Forest Service public participation process. *Forest Policy and Economics* 3: 113-124.

Giuliani, M.V., and R. Feldman. 1993. "Place attachment in a developmental and cultural context." Journal of Environmental Psychology 13:267–274.

Punch, Keith, *Introduction to Social Research, quantitative and qualitative approaches* (Sage Press) London 2005

Richards, Lyn *Handling Qualitative Data, a practical guide* Sage Publications (London) 2005.

Stedman, R., T. Beckley, et al. (2004). "A Picture and 1000 Words: Using Resident-Employed Photography to Understand Attachment to High Amenity Places." Journal of Leisure Research 36(4): 580-606.

Tuan, Y.F. (1977). Space and place: The perspective of experience. University of Minnesota Press, Minneapolis.

    Altman, I. and S. M. Low (1992). Place attachment. New York, Plenum Press.

Vining, Joanne, and Elizabeth Tyler. 1999. Values, emotions and desired outcomes reflected in public responses to forest management plans. *Human Ecology Review* 6(1): 21-34.

Weiss, Robert *Learning from Strangers, the art and method of qualitative interview studies* The Free Press (New York) 1994

Williams, D. R. and J. J. Vaske (2003). "The Measurement of Place Attachment: Validity and Generalizability of a Psychometric Approach." Forest Science 49: 830.

7. Appendices

APPENDIX 1: TAXONOMY OF ALL THEMES RELATED TO TEXT ANALYSIS

1) Resources

    a) Natural Environment
       i) Access and Transportation
       ii) Air Pollution/Quality
       iii) Areas of Critical Environmental Concern
       iv) Botany
       v) Climate Change (Global Warming)
       vi) Fires
       vii) Flooding and Landslides
       viii) Forest Ecology
       ix) National Landscape Conservation System
          (1) Wilderness
          (2) Monuments
       x) Noise Pollution
       xi) Realty and Ownership
       xii) Special Forest Products (SFP)
       xiii) Soil
       xiv) Threatened and Endangered Species
       xv) Timber
          (1) Timber (Old Growth)

        (2) Timber (Second Growth)

        (3) Timber (Timber Harvest)

    xvi)   Thinning & Forest Management

    xvii)   Visual Resources

        (1) Visual Resources (Scenic Beauty)

        (2) Visual Resources (Visual Impacts)

    xviii) Water

        (1) Water (General)

        (2) Water (Fish Habitat)

        (3) Water (Salmon)

        (4) Water (Riparian Areas)

        (5) Water (Quality/Drinking Water)

b) Recreation

   i)   Bicycling

   ii) Bird Watching

   iii) Camping

   iv) Fishing

   v) Hiking

   vi) Horseback Riding

   vii) Hunting

   viii)   Non-Motorized Transportation

   ix) OHV

   x) Passive Recreation

   xi) Picnicking

   xii) Water Sports

c) Socioeconomics

   i)   Cultural Resources

       (1) Cultural Resources (Archeological Sites)

       (2) Cultural Resources (Historic Places)

       (3) Cultural Resources (Natural Heritage)

   ii) Environmental Justice

   iii) Fiscal Condition of Local Governments

   iv) Grazing

   v) Local Community (Conflict & Controversy)

   vi) Local Economy

   vii) Mining

   viii)   Property Value (Residential)

   ix) Quality of Life

   x) Timber Industry

   xi) Tourism

2) Statements of Utility & Value

a) Statements of Utility

   i)   Professional utility

   ii) Recreational utility

   iii) Organizational affiliation

   iv) Relocation/Visitor

b) Statements of Value
    i)   Maximizing forest resources
        (1) Values maximized by preservation
        (2) Values maximized by resource extraction
    ii) Variation in benefit time-frame
        (1) Heritage Value
        (2) Current use value
    iii) Private use of public lands
        (1) Private use serves public interest
        (2) Private use does not serve public interest
    iv) Understanding of logging consequences
        (1) Consequences known
        (2) Rejection of environmental extremism
    v)   Value of family recreation
3) Governance
    a) BLM goals
    b) Legality
    c) Science
    d) Public Control of Resources
    e) Voice & Participation
    f) Statements of Authority
        i)   Professional/educational credential
        ii) Witness to past environmental destruction
        iii) Citizen/voter/right to have voice heard
        iv) Dispute need for authority

APPENDIX 2: COUNT OF CATEGORY FREQUENCIES

Count of Category Frequencies

	Count*	Percentage
Theme Area 1: Resource Themes		
Natural Environment		
Access and Transportation	125	26
Air Pollution	17	4
Air Quality	17	4
Areas of Critical Environmental Concern	13	3
Botany (Fungi)	6	1
Botany (Invasive)	17	4
Climate Change (Global Warming)	97	20
Fires (General)	97	20

Fires (Fuel)	37	8
Fires (Fire Hazard)	15	3
Flooding and Landslides	36	8
Forest Ecology (General Habitat)	231	49
Forest Ecology (Wildlife)	164	35
NLCS (National Monument)	6	1
NLCS (Wilderness Area)	12	3
Noise Pollution	45	9
Realty and Ownership	75	16
SFP (Greenery)	3	1
SFP (Mushrooms)	9	2
Soil Compaction	7	1
Soil Erosion	59	12
Spotted Owl	56	12
Threatened and Endangered Species	117	25
Timber (Old Growth)	449	95
Timber (Second Growth)	188	40
Timber (Timber Harvest)	69	15
Visual Resources (Scenic Beauty)	58	12
Visual Resources (Visual Impacts)	28	6
Water (General)	65	14
Water (Fish Habitat	104	22
Water (Quality/Drinking Water)	213	45
Water (Riparian Areas)	138	29
Water (Salmon)	86	18
Recreation		
Bicycling	9	2
Bird Watching	16	3
Camping	9	2
Fishing	26	5
Hiking	56	12
Horseback Riding	22	5
Hunting	28	6
Non-Motorized Transportation	29	6
OHV	159	33
Passive Recreation	41	9
Picnicking	2	0
Water Sports	11	2

Socioeconomics		
Cultural Resources (Archeological Sites)	5	1
Cultural Resources (Historic Places)	4	1
Cultural Resources (Natural Heritage)	150	32
Environmental Justice	2	0
Fiscal Condition of Local Governments	92	19
Grazing	8	2
Local Community (Conflict & Controversy)	77	16
Local Economy	170	36
Mining	3	1
Property Value (Residential)	23	5
Quality of Life	58	2
Timber Industry	78	16
Tourism	43	9
Theme Area 2: Utility and Values		
Statements of Utility		
Recreational Utility	51	11
Professional Utility	22	5
Retirement/Relocation	19	4
Organizational affiliation	9	2
Visitor	4	1
Statements of Value		
Maximizing Forest Resources		
Values maximized by preservation	57	12
Values maximized by resource extraction	10	2
Variation in Benefit Time-Frame		
Old-growth is Irreplaceable	17	4
Preservation for future generations	46	10
Short-sighted nature of plan	43	9
Minimal forests remain	23	5
Priority of economic growth	20	4
Private use of Public Lands		
Private use good	26	5
Private use bad	5	1
Understanding of Logging Consequences		
Consequences Known	21	4

Rejection of environmental extremism	7	1
Value of Family Recreation	10	2
Theme Area 3: Governance		
Analysis of Environmental Consequences		
Cumulative effects	17	4
Data	10	2
Interpretation	17	4
Models	15	3
Implementation		
Buffer Requirements	81	17
Other Policies and Regulations	155	33
Priorities	7	1
Protected Areas	16	3
Use and Access Restrictions	33	7
Statements about Government	152	30
Process & General Plan Comments		
Overall plan purpose	75	16
Goals	101	21
Legality	16	3
Science	8	2
Process	53	11
Statements of Authority		
Professional/Educational Credential	28	6
Citizen/Voter/Right to have voice heard	36	8
Witness to past environmental destruction	16	3
Should not have to be an authority	7	1

number of times category is mentioned

APPENDIX 3: WORD COUNT ANALYSIS

The following is an example of a Concordance word count analysis. 775 comments were used in this sample. We reviewed these comments for references using Concordance and NVivo software. This first round of analysis revealed the importance of woodlands with over 600

references to forests. We ran a full Concordance analysis to quantify every word in each document and to search for phrases. The most frequent phrases, occurring 143 times, relate to the protection of old-growth forests. Even those respondents in favor of thinning forests and clear-cutting support protecting old-growth forest areas. Other top reasons that places are considered important or valuable are (1) important species (over 200 comments); (2) hiking (over 135 comments); and (3) scenic beauty (over 120 comments).

In order to test the relevance of our initial taxonomic structure, we reviewed 450 statements. We analyzed the frequency of words and statements of the initial taxonomy, as well as their context. It became clear that portions of our initial taxonomy might not be relevant to the data and that some word combinations and concepts were absent from the taxonomic structure. For example, air was mentioned 31 times, but only 8 times in the term "air quality." Further, some terms in the initial taxonomy like "ranching," "mining," and "fiscal" were not used at all, while terms not in the initial taxonomy appear quite often in the data, such as "public" (212 times), "future" (83 times), "future generations" (30 times), and "fire" (63 times).

"Water" was used 139 times, including "water quality" (27 times), "clean water" (21 times), "drinking water" (13 times), and "watershed" (55 times). "Timber" was mentioned 248 times, including "timber industry" (31 times) and "timber harvest" (24 times). "Economy" or "economic" was used 98 times; however, "local economy" appeared only three times. "Species" was used 99 times including "threatened species" (11 times), and "endangered species" (30 times). "Riparian" was used 65 times.

Top Word Counts from Concordance

forests	876
our	836
are	747
BLM	708
we	678
not	593
forest	578
have	521
plan	515
Oregon	514
would	506
will	496
lands	410
areas	392
growth	382

land	380
old	378
WOPR	363
logging	360
water	358
area	345
management	340
timber	330
public	321
an	317
all	316
should	296
my	291
old-growth	282
western	280
more	279
alternative	276
species	270
habitat	266
wildlife	257
am	253
use	243
which	241
do	238
there	233
please	224
OHV	219
protect	209

APPENDIX 4: DISCUSSION OF GROUNDED THEORY APPROACH

Qualitative analysis is inherently unstructured and the results can often change, as themes, causal relationships and recursive interrelationships emerge during every stage of the data analysis process (Richards 2005; Weis 1994). This project presented many specific challenges in addition to these challenges of qualitative research. First, the enormous amount of data that had to be read and interpreted by individuals, as opposed to computer software, presented many time constraints on our data interpretation. We addressed this problem in tandem with the development of the methodology, as discussed earlier in this paper. Second, the comments came to us gleaned of any demographic attributes that we could have used to inform subsequent data analyses and methodological development. With baseline demographic profiles such as

respondents' sex, age, and residence, we could have explored relationships such as urban/rural, male/female, old/young, etc. and emergent clusters of respondent concerns.

Given this lack of demographic information, we instead developed a grounded theory approach to the iterative results of the data analysis. Grounded theory generates explanatory theory grounded in data (Punch 2005). Grounded theory can be simplified into open and axial coding of qualitative data. Each type of coding attempts to raise the level of abstraction of the individual units of analysis, so that they can be later analyzed as themes or meta-themes (Punch 2005). Open coding corresponds to the first level of data analysis; comments are read and first-level abstractions are subsequently coded. This stage of our process did not correspond with a pure grounded theory approach to qualitative analysis as the themes emerged not from the data but from the table of contents of the DEIS. Nonetheless, the comments were read for emergent open codes (nodes) that were not present in the original DEIS document.

The next level of abstraction is axial coding, through which the level of abstraction is raised to include causal and recursive relationships between the results of the open coding. At this stage of the data analysis process, we sought to explore relationships within the hierarchical structure of the taxonomy, which now included new nodes abstracted from the comments and added to the taxonomic structure. This process was aided by the complex database attributes of the NVivo software. Data analysts were able to axial code through the already open coded nodal structure to explore and code meta-themes.

Although the open coding and axial coding processes were mutually supportive and informed one another, they were discrete levels in the qualitative method we utilized to analyze comments. The open coding process informed the axial coding process and produced tabulations that could be quantitatively analyzed. The axial coding process raised the levels of abstraction and allowed for the exploration of the complex patterns of cause and change expressed by the respondents; however, this level of abstraction severely limited further quantitative analyses, since the axial codes could not be quantified outside of the process of data analysis. In other words, axial codes emerged from our interpretation of relationships within the data, not from the raw data.

Table 6: Comment Count by residence

Years in Residence	Comments
1 - 7 years	514
15 or more years	939
7 - 15 years	440
Less than 1 year	73
no response	209
Total	2175

Table 7: Comment count by organizational affiliation

Affiliation	Comments
No	2058
Yes	117
Total	2175

Table 8: Comment count and percentage by occupation

Occupation	Frequency	Percent
Tourism	205	14.5
Timber	87	6.2
Farming	72	5.1
Government	58	4.1
Industry	54	3.8
Ranching	18	1.3
no response	918	65
Total	*1412*	*100*

Table 9: Comment Count by Visitation

Use frequency	Frequency	Percent
Daily	269	19.1
Once-a-week	200	14.2
1-4 times yearly	270	19.1
Once-a-month	274	19.4
no response	399	28.3
Total	*1412*	*100*

Table 10: Comment Frequency of recreational activities

Activity	Frequency	Percent
Hiking	144	0.10
Photography	102	0.07
Bird watching	93	0.07
Dirt biking	44	0.03
Fishing	52	0.04
Hunting	45	0.03
Camping	78	0.06
OHV	58	0.04
no response	796	0.56
Total	*1412*	*100*

Figure 3: Frequency of Comments by State

Frequency of Comments by State

WA - 59
MT - 1
ND - 0
MN - 13
ME - 1
OR - 4588
ID - 4
SD - 1
WI - 0
MI - 0
VT - 3
NH - 0
MA - 8
RI - 0
CT - 1
WY - 1
NY - 17
NV - 0
NE - 0
IA - 0
PA - 7
NJ - 2
UT - 3
IL - 5
IN - 0
OH - 3
DE - 0
CO - 17
MD - 11
CA - 181
KS - 1
MO - 1
VA - 4
DC - 2
KY - 0
AZ - 2
NM - 0
OK - 2
AR - 1
TN - 2
NC - 12
SC - 0
WV - 0
TX - 9
MS - 0
AL - 1
GA - 2
LA - 3
FL - 3

AK - 6
220 110 0 220 Miles

HI - 1
100 50 0 100 Miles

N

350 175 0 350 Miles

Comments
- 0
- 1-5
- 5-10
- 10-15
- 15-180
- 180-4600
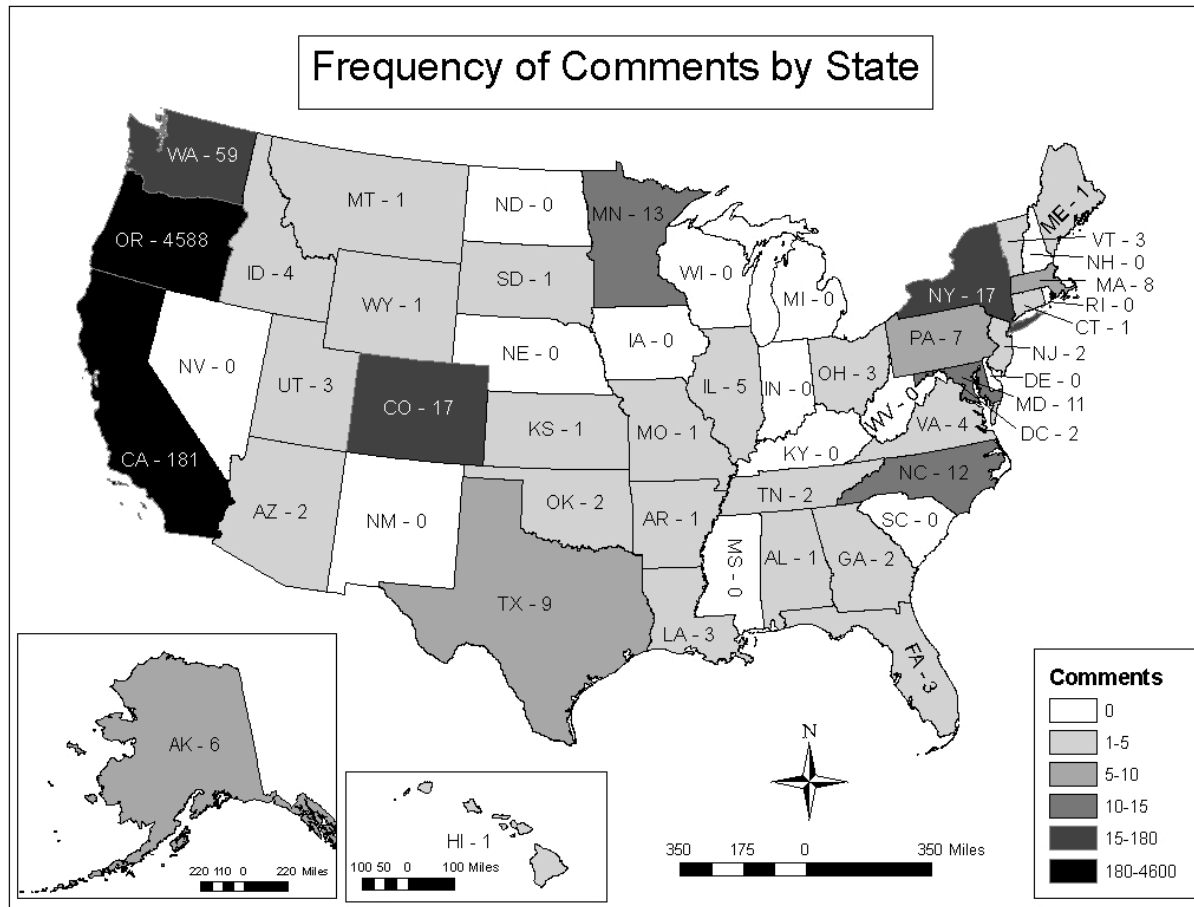
Figure 4: Frequency of Comment by Zip Code
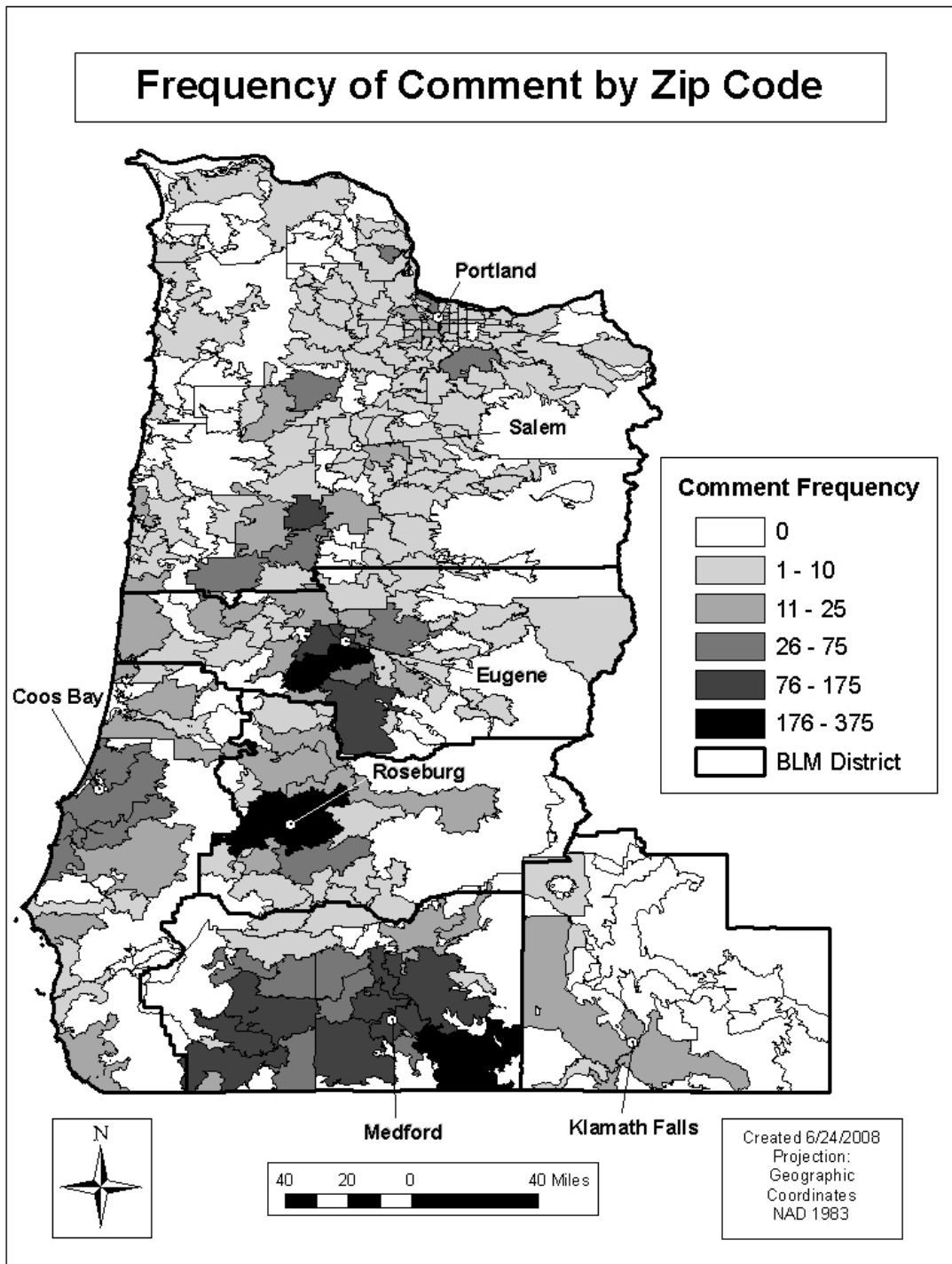
Figure 5: Frequency of Comment by County

Frequency of Comment by County

Comment Frequency
- 0 - 50
- 51 - 150
- 151 - 250
- 251 - 500
- 501 - 1500

Clatsop
Columbia
Washington
Multnomah
Portland
Tillamook
Yamhill
Clackamas
Polk
Salem
Marion
Lincoln
Benton
Linn
Eugene
Lane
Coos Bay
Coos
Roseburg
Douglas
Klamath
Curry
Jackson
Josephine
Medford
Klamath Falls

N

40 20 0 40 Miles

Created 6/24/2008
Projection:
Geographic
Coordinates
NAD 1983

Table 11: Comments by County

County	Post Card Comments	Lock Box Comments	Interactive Map Comments	Total Comments
Lane	545	658	40	1244
Jackson	766	336	45	1148
Josephine	357	133	11	500
Douglas	320	87	17	424
Multnomah	87	137	15	239
Benton	70	154	9	233
Coos	109	45	11	165
Clackamas	51	49	11	111
Washington	60	33	4	98
Lincoln	13	31	10	54
Yamhill	10	32	8	50
Columbia	5	30	11	45
Marion	27	17	0	44
Klamath	19	19	5	43
Linn	23	18	0	41
Curry	25	12	1	38
Polk	5	16	0	21
Tillamook	4	5	0	9
Clatsop	7	1	0	8

Figure 6: Frequency of Comment by BLM District

Frequency of Comment by BLM District

Portland

Salem District

Salem

Eugene

Eugene District

Comment Frequency

	0 - 100
	101 - 300
	301 - 500
	501 - 1000
	1001 - 1700

Coos Bay

Roseburg

Coos Bay District

Roseburg District

Medford District

Lakeview District

Medford

Klamath Falls

N

40   20   0   40 Miles

Created 6/24/2008
Projection:
Geographic
Coordinates
NAD 1983
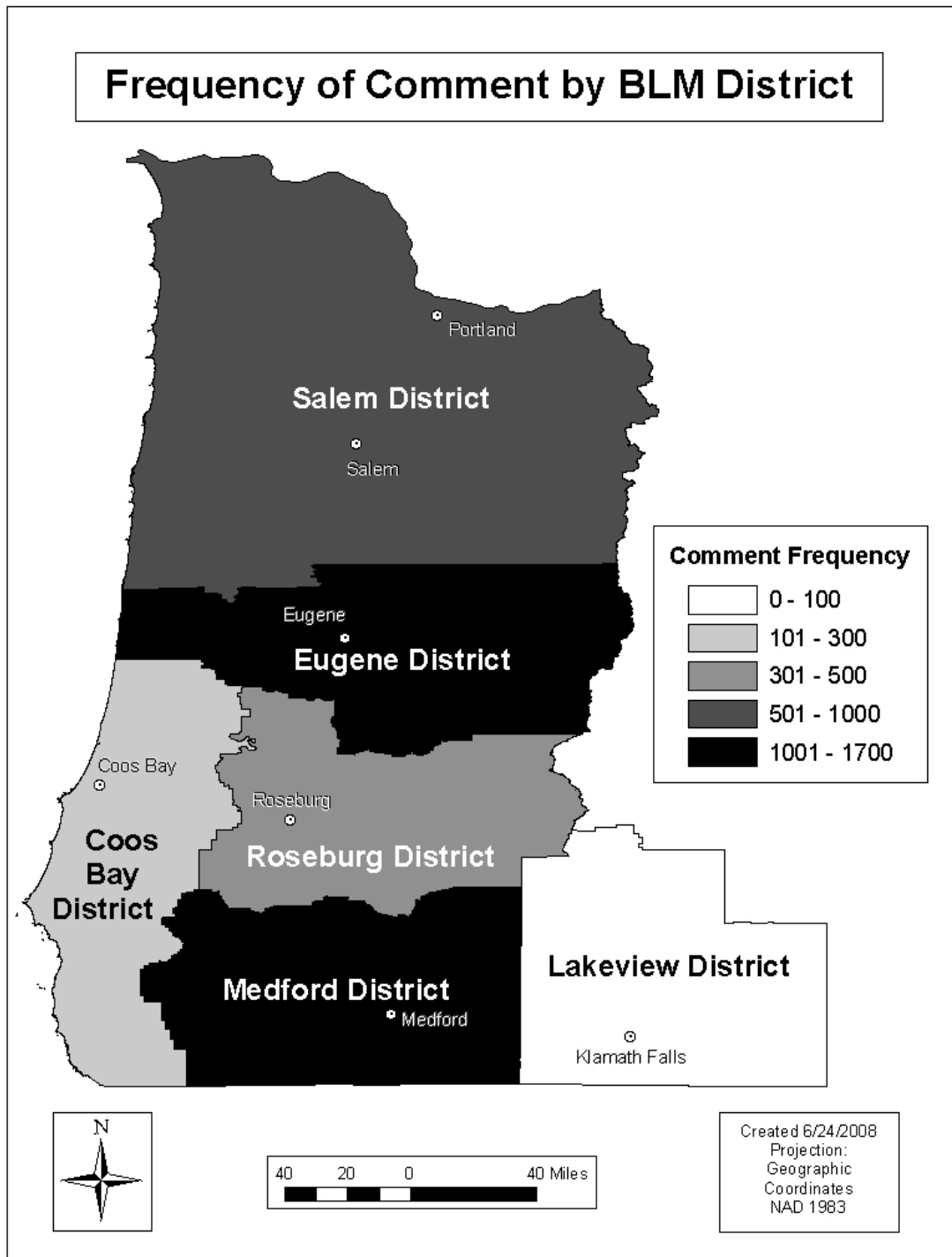
Table 12: Comments by BLM District

BLM District	Post Card Comments	Lock Box Comments	Interactive Map Comments	Total Comments
Medford	1124	472	57	1652
Eugene	553	658	40	1251
Salem	350	521	68	939
Roseburg	306	76	16	399
Coos Bay	149	68	12	229
Lakeview	19	19	5	43

Figure 7: Frequency of Comment by BLM Resource Area

Frequency of Comment by BLM Resource Area

Comment Frequency
- 0 - 100
- 101 - 200
- 201 - 300
- 301 - 500
- 501 - 950

Created 6/24/2008
Projection:
Geographic
Coordinates
NAD 1983
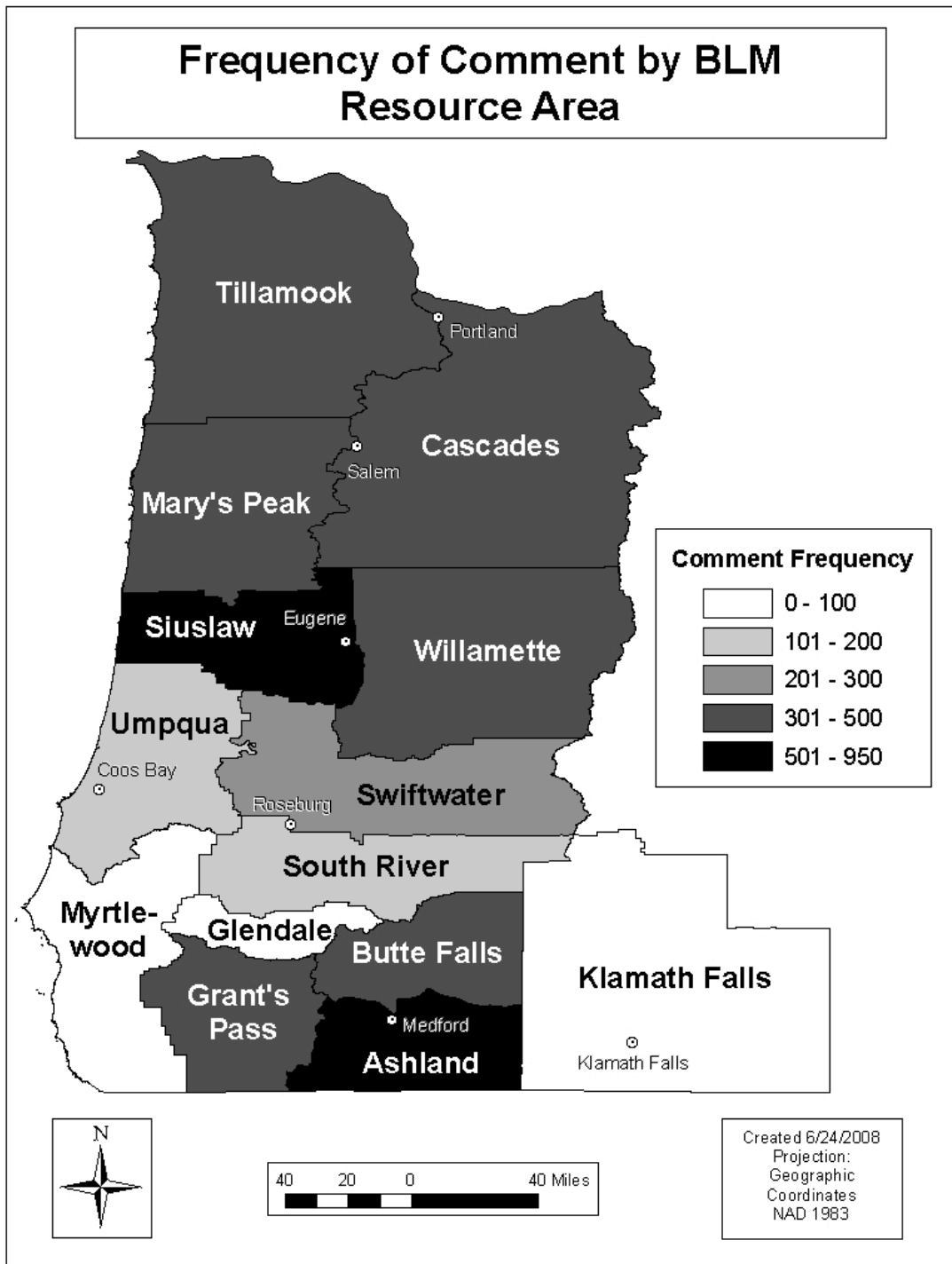
Table 13: Comments by BLM Resource Area

BLM Resource Area	Post Card Comments	Lock Box Comments	Interactive Map Comments	Total Comments
Siuslaw	381	500	33	913
Ashland	573	248	30	852
Grant's Pass	337	122	11	471
Willamette	173	158	7	338
Cascades	133	176	13	323
Butte Falls	204	94	15	313
Mary's Peak	88	202	19	309
Tillamook	128	143	36	308
Swiftwater	144	53	10	208
South River	162	23	6	191
Umpqua	108	41	7	156
Myrtlewood	41	27	5	73
Klamath Falls	19	19	5	43
Glendale	9	7	1	17

Figure 8: Frequency of Comment by Zip Code in the Coos Bay BLM District

Frequency of Comment by Zip Code in Coos Bay BLM District

Coos Bay

Comment Frequency
- 0
- 1 - 10
- 11 - 25
- 26 - 75
- 76 - 175
- 176 - 375
- Coos Bay District

10 5 0   10 Miles

N

Created 6/24/2008
Projection:
Geographic
Coordinates
NAD 1983
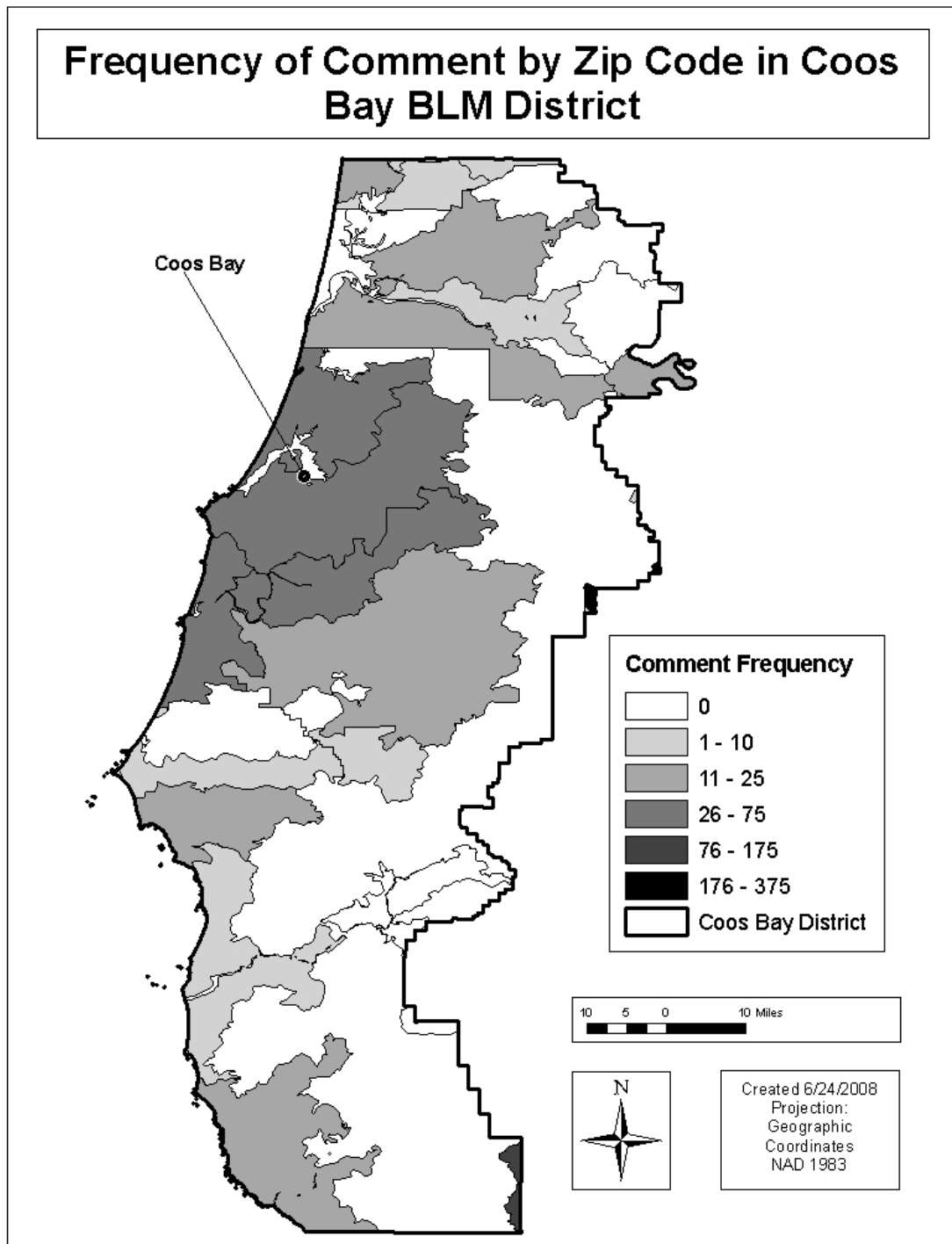
Figure 9: Frequency of Comment by Zip Code in the Eugene BLM District
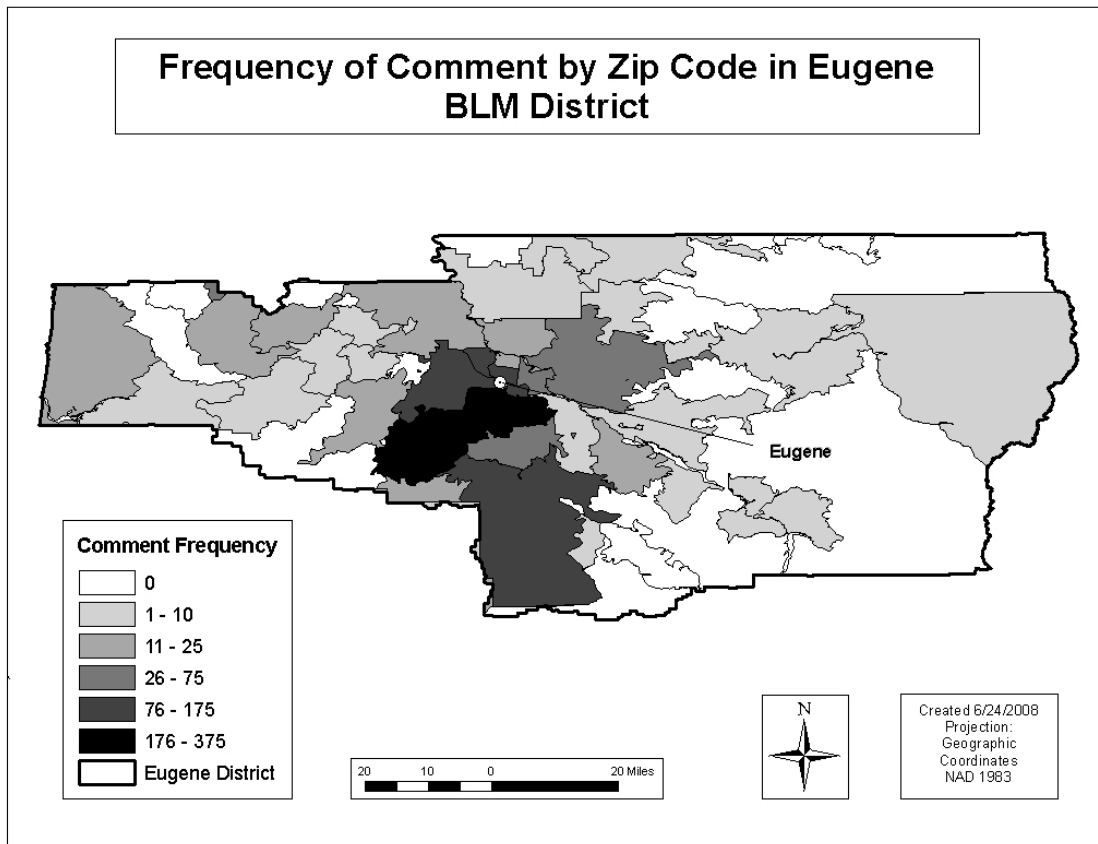
Figure 10: Frequency of Comment by Zip Code in the Lakeview BLM District

Frequency of Comment by Zip Code in Lakeview BLM District

Klamath Falls

10   5   0   10 Miles

N

Created 6/24/2008
Projection:
Geographic
Coordinates
NAD 1983

Comment Frequency

☐ 0	26 - 75
1 - 10	76 - 175
11 - 25	176 - 375
	☐ Lakeview District
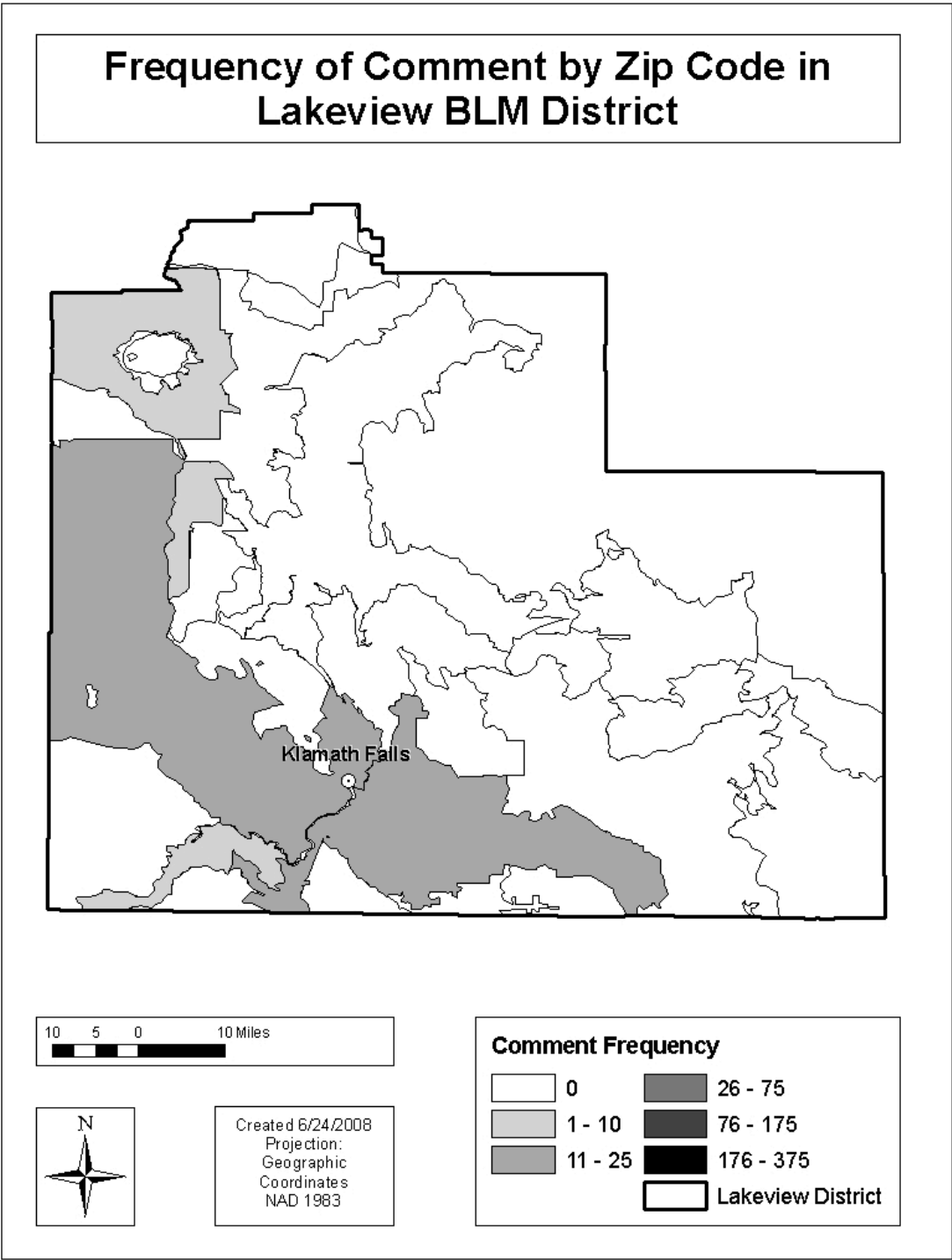
Figure11: Frequency of Comment by Zip Code in the Medford BLM District

Frequency of Comment by Zip Code in Medford BLM District

Medford

Created 6/24/2008
Projection:
Geographic
Coordinates
NAD 1983

10   5   0   10 Miles

Comment Frequency

0		26 - 75	Medford District
1 - 10		76 - 175	
11 - 25		176 - 375	
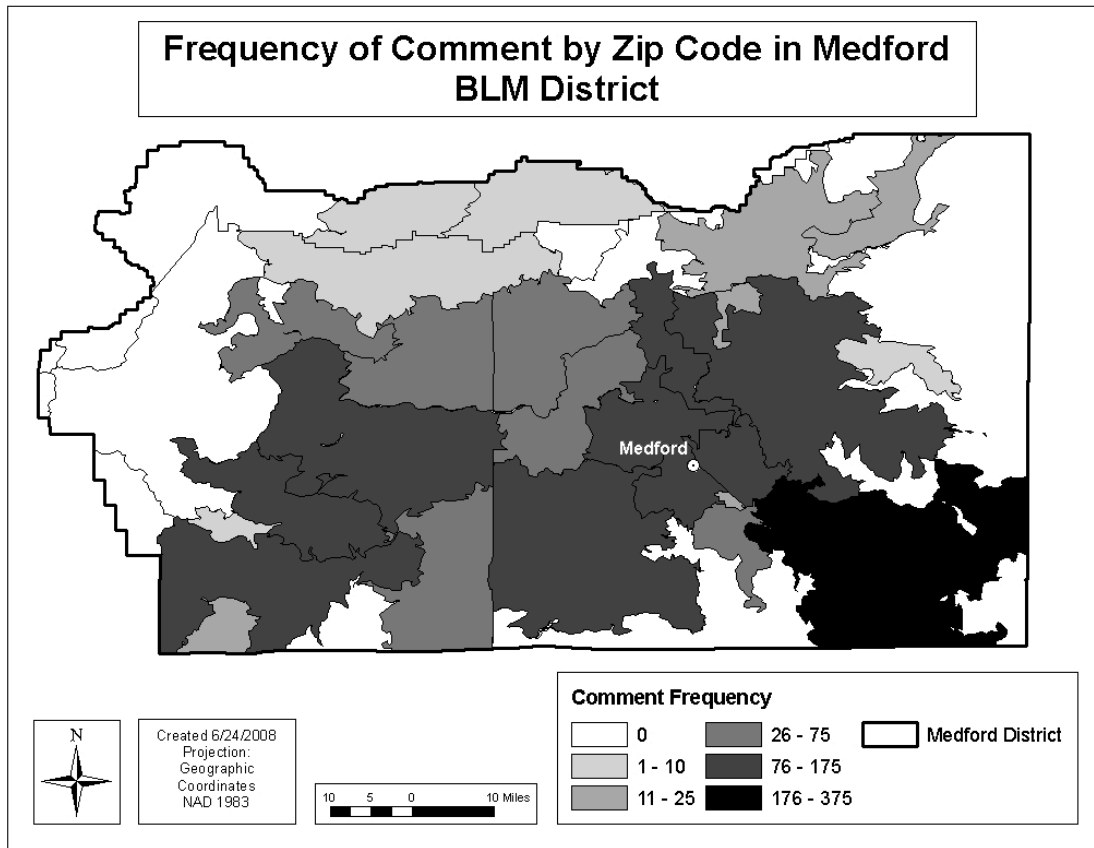
Figure 12: Frequency of Comment by Zip Code in the Roseburg BLM District

Frequency of Comment by Zip Code in Roseburg BLM District

Roseburg

Created 6/24/2008
Projection:
Geographic
Coordinates
NAD 1983

10 5 0   10 Miles

Comment Frequency

| | 0 | | Roseburg District |
| 1 - 10 |
| 11 - 25 |
| 26 - 75 |
| 76 - 175 |
| 176 - 375 |

Figure 23: Frequency of Comment by Zip Code in the Salem BLM District

Frequency of Comment by Zip Code in Salem BLM District

Portland

Salem

Comment Frequency

- 0
- 1 - 10
- 11 - 25
- 26 - 75
- 76 - 175
- 176 - 375
- Salem District

Created 6/24/2008
Projection:
Geographic
Coordinates
NAD 1983

25   12.5   0   25 Miles

N
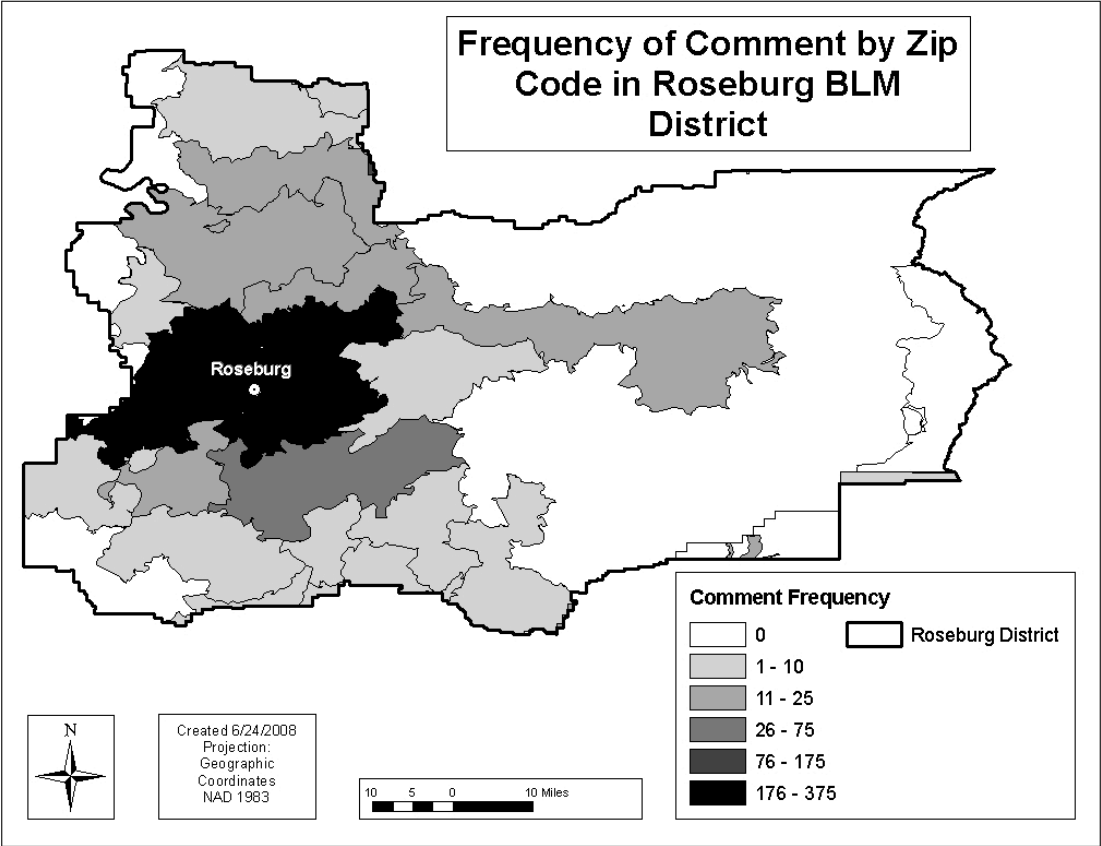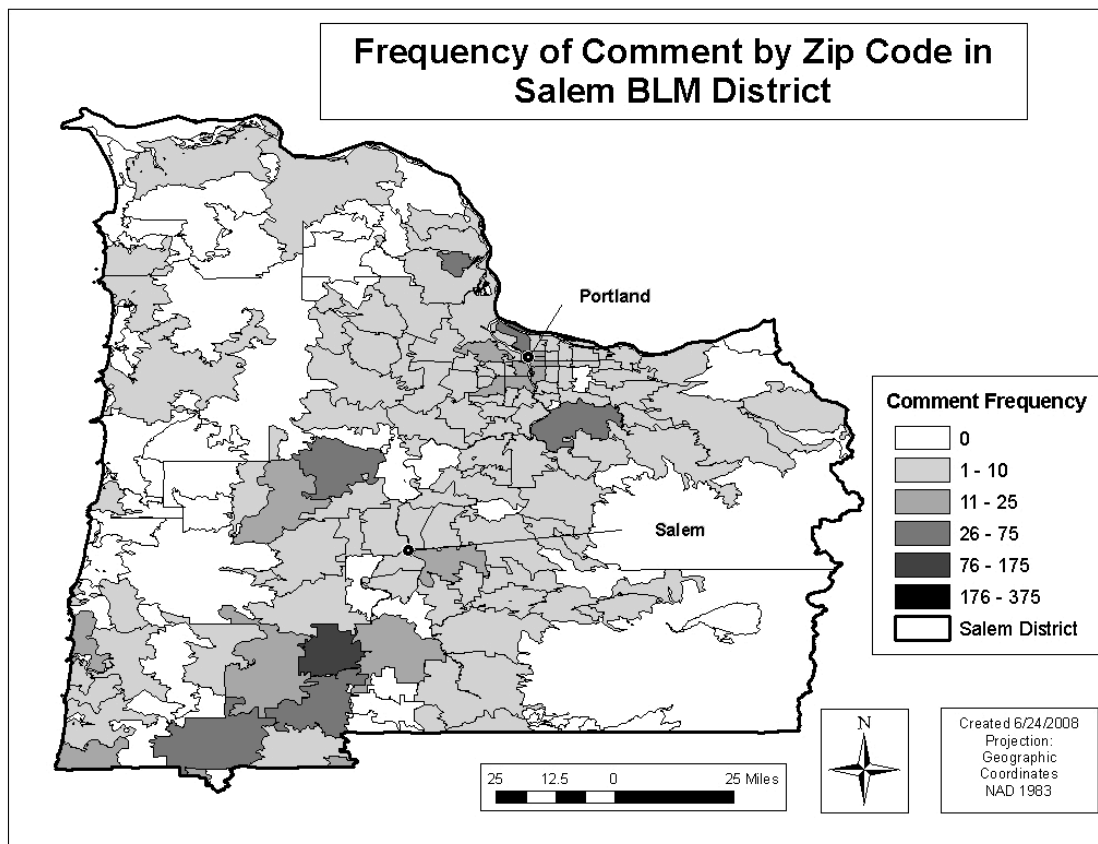
Figure 34: Points Indicated as Areas of Concern Compared to Frequency of Zip Code

Points Indicated by Public Commentors as Areas of Concern
Compared to Total Frequency of Comments by Zip Code

Legend

- Areas of Public Concern
- BLM District

Comment Frequency
- 0
- 1 - 10
- 11 - 25
- 26 - 75
- 76 - 175
- 176 - 375

N

50   25   0   50 Miles

Created 6/24/2008
Projection:
Geographic
Coordinates
NAD 1983
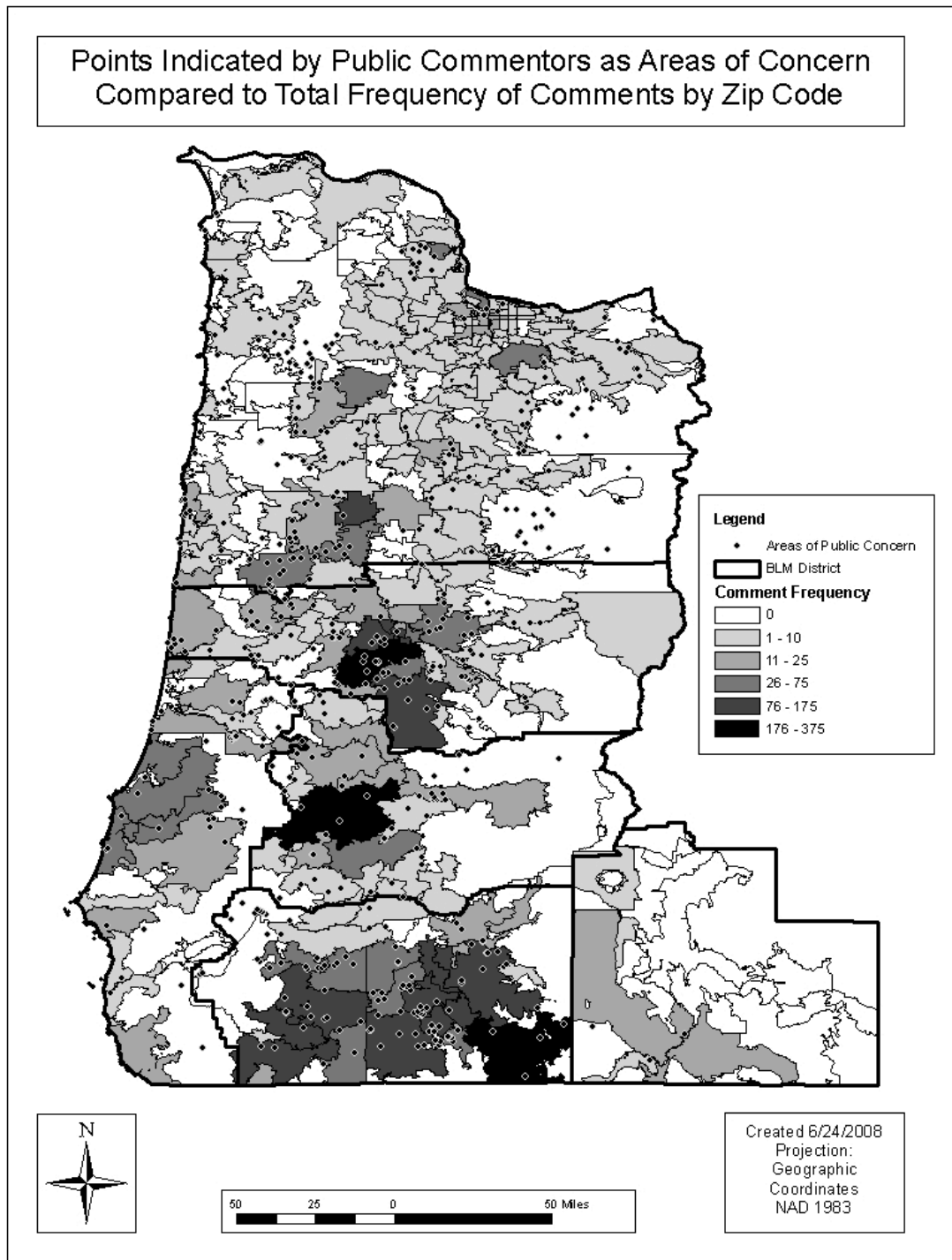
Figure15: Points Indicated as Areas of Concern Compared to Land Ownership

Points Indicated by Public Commentors as Areas of Concern Compared to Land Ownership
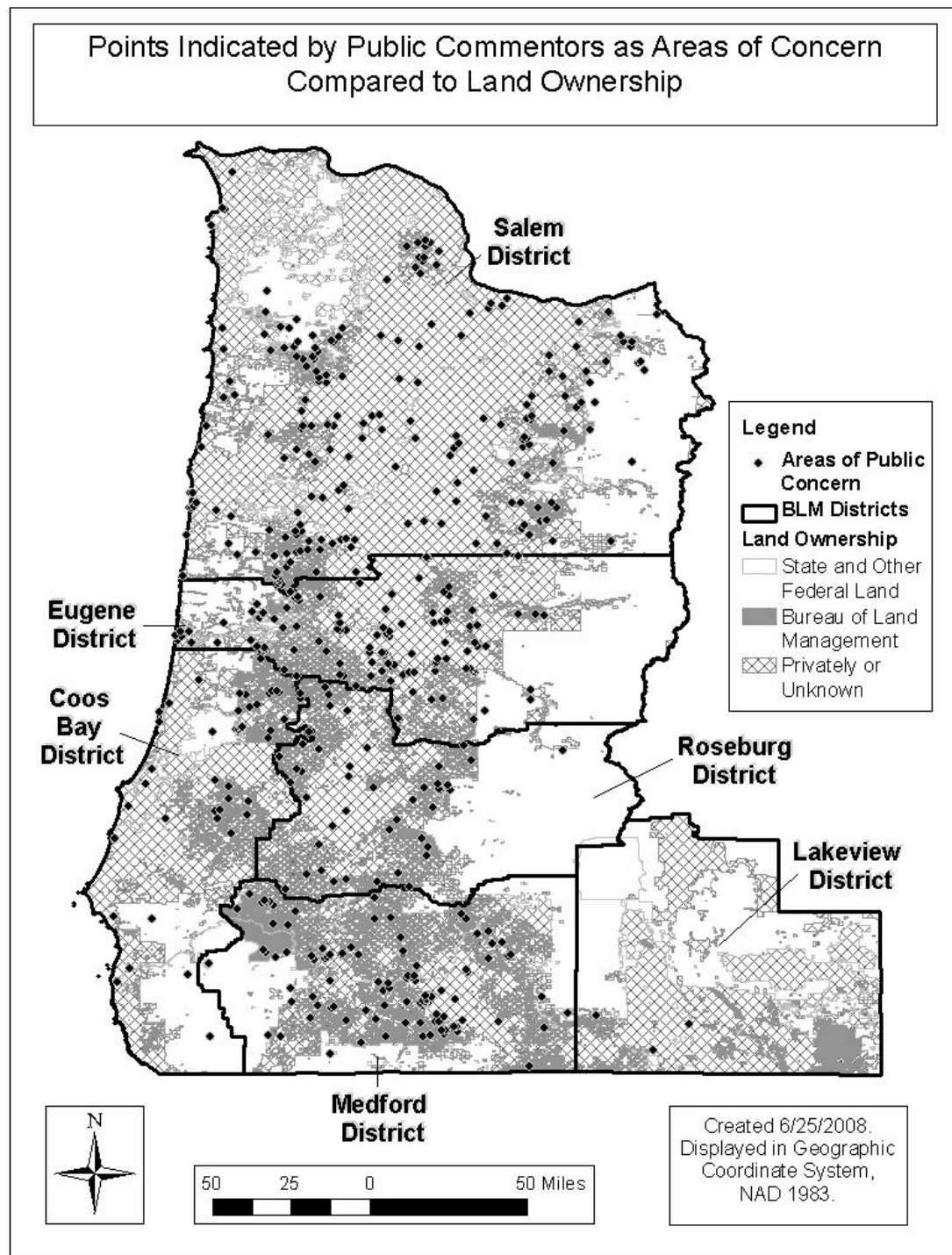
Figure 4: Areas of Concern Compared to Land Ownership & Proposed OHV Areas in Medford BLM District

Points Indicated by Public Commentors as Areas of Concern Compared to Land Ownership in Medford BLM District

Medford District

10 5 0   10 Miles

Created 6/25/2008. Displayed in Geographic Coordinate System, NAD 1983.

N

Legend

Areas of Public Concern   Land Ownership
BLM Districts   State and Other Federal Lands
Proposed BLM OHV Areas   Bureau of Land Management
                                              Privately or Unknown

Figure 57: Points Indicated as Areas of Concern Compared to Riparian Areas

Points Indicated by Public Commentors as Areas of Concern Compared to Riparian Areas (Waterbodies and 100meter Buffers)

Salem District

Eugene District

Coos Bay District

Roseburg District

Lakeview District

Medford District

Legend
- Areas of Public Concern
- Areas of Public Concern Intersecting Riparian Buffers
- BLM Districts
- Riparian Areas

Created 6/25/2008. Displayed in Geographic Coordinate System, NAD 1983.

N

40   20   0   40 Miles

Figure 68: Points Indicated as Areas of Concern Compared to Spotted Owl & Marbled Murrelet Habitat

Points Indicated by Public Commentors as Areas of Concern Compared to Spotted Owl and Marbeled Murrelet Habitat

Legend

- Areas of Public Concern
- BLM Districts
- Marbeled Murrelet Critical Habitat
- Murrelet and Owl Critical Habitat
- Spotted Owl Critical Habitat

Salem District

Eugene District

Coos Bay District

Roseburg District

Lakeview District

Medford District

N

50   25   0   50 Miles

Created 6/25/2008. Displayed in Geographic Coordinate System, NAD 1983.
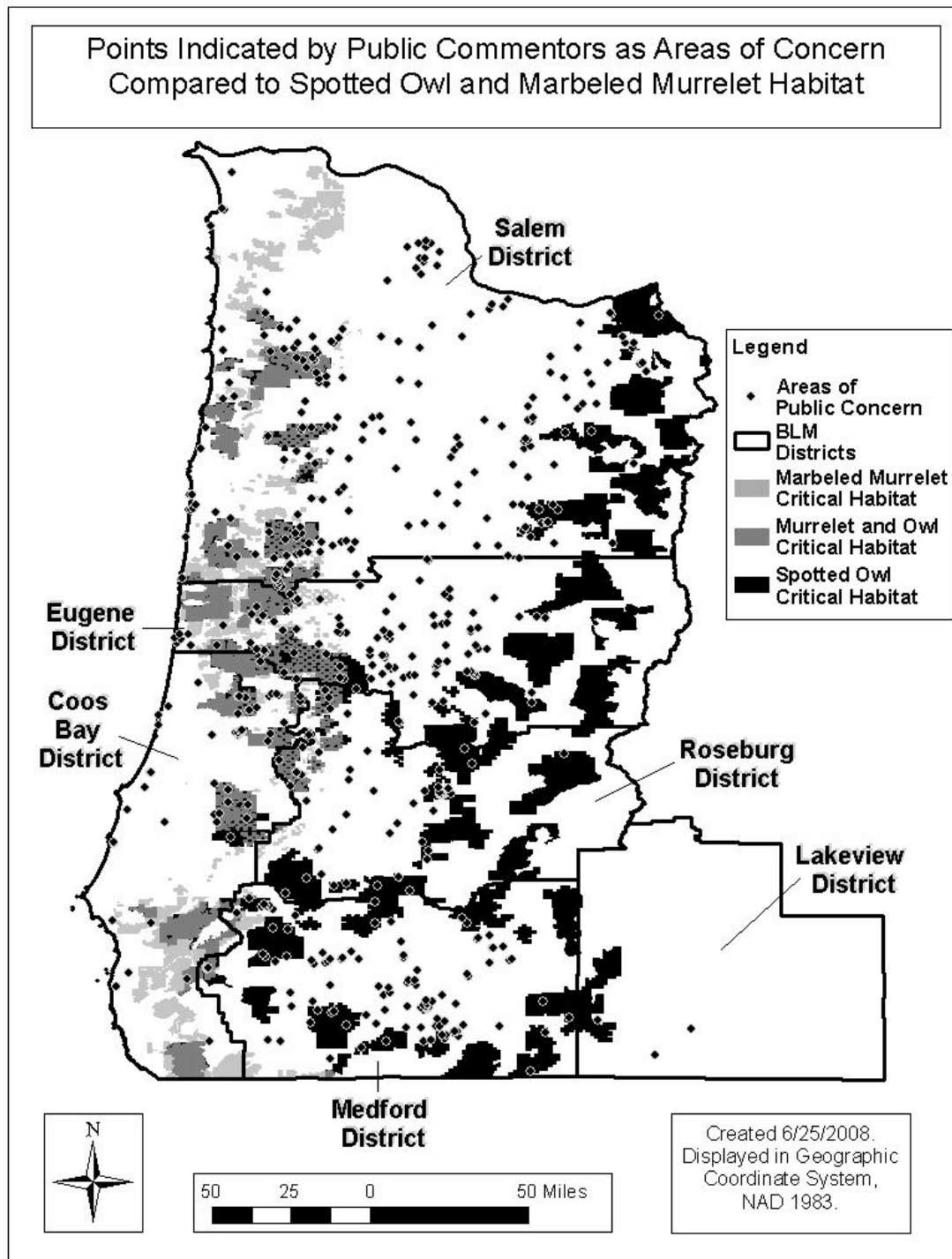
The following section contains detailed descriptions and quotes from the themes outlined in Chapter 4.

Resources

NATURAL ENVIRONMENT

Access and Transportation

Comments on access and transportation are wide-ranging. There is a large cluster of statements from OHV users focusing on motorized access to roads and trails. For the most part, respondents see BLM lands as a national/regional asset that should be accessible for taxpaying citizens. Transportation comments focus on calls for an increase or decrease in road incursions into BLM lands.

> *It helps many educators and students to have an old-growth forest close to educational institutions in and near Crow, Lorane, Veneta and west Eugene, so easily accessible to everyone. I believe this forest is the closest publicly owned old-growth forest in our area that is accessible from a paved road.* 20955

Air Pollution/Quality

The respondents who comment on either air quality or air pollution draw from the data presented in the DEIS as well as from individual experience and research. On a micro-climate level, comments note the effect of pesticides on the spatially affected areas. On a macro-climate level, respondents draw conclusions that old-growth and second-growth forests contribute to air quality by converting carbon dioxide to oxygen.

> *The short term economic gains are not worth the habitat and soil destruction, water and air pollution.* OL-00176

> *It is critical that we find ways to financially support local residents as the region transitions from resource extraction to other businesses. Yet, we must also ensure that our natural heritage remains fully protected for benefits that are both tangible and economically quantifiable (flood protection, cleaner air and drinking water), and less appreciated or defined, though equally relevant (aesthetic beauty, "sense of place").* OL-00253

Areas of Critical Environmental Concern (ACECs)

Few comments focus on ACECs and other special areas. Those that do generally call for greater protection of these areas or the inclusion of ACECs in specific areas currently under the management of the Bureau of Land Management.

> *I'm disappointed that all special areas (Research Natural Areas and Areas of Critical Environmental Concern) won't be protected from logging under WOPR.* EM-01972

Botany

A few respondents discuss the specifics of the botany of the regions in question. Comments about fungi focus on a description of the area or review of the commercial value of mushrooms which grow in old growth stands. In terms of invasive botany, respondents point out that the destruction of old growth ecosystems leads to situations where invasive species can establish themselves.

> *At the very least, alternatives 1 through 3 degrade habitat for endangered species such as the NSO and the marbled murrelet and seem to retard advancements made in buffering of streams from sediment and unnecessarily placing our forests at risk from non-native species of plant (such as Brachipodium sylvaticum).* OL-01150

Climate Change (Global Warming)

Although not a major factor in the DEIS, climate change is discussed by many commenters. Respondents argue that the United States should recognize the interconnected nature of the global ecosystem and enact policies to mitigate the damage already done.

> *Most specifically we object to: The idea that global warming is "speculative"—for your plan to even suggest that shows how ignorant your plan is. Global warming is a scientific fact.* OL-00251

> *Another reason to preserve the forest is global warming. Every time a tree is cut down, global warming is that much more accelerated. We need to think in terms of protecting the entire planet, not just a small piece of it.* OL-00508

Fires

Fires are one of the more frequently mentioned concerns regarding the natural environment. Commenters see logging as preventing or exacerbating fire hazards. Both the supporters and opponents of WOPR see the BLM as playing a pivotal role in managing forests

for the reduction of wildfires. Some respondents comment on the value of supporting access roads for fire suppression that could also be used as routes for recreational activities including OHV use.

> *This is an overriding reason why we must consider increasing harvest levels dramatically from present levels, if only to attempt to mitigate the concern of catastrophic fire.* EM-02023

> *Most Americans want federal land managers to embrace thinning second growth forests, safeguard communities from wildfire and protect what remains of our nation's ancient forests.* EM-01917

> *Access should be maintained through BLM administered lands for private land access, fire suppression, as well as recreational uses, such as hunting, fishing, boating and sightseeing.* EM-00236

Flooding and Landslides

Here, as with fires, comments center on the relationship between forest policy and natural disasters. The effects of flooding and landslides are seen by respondents as rooted in the forest's inability to absorb and retain spikes of precipitation events. Respondents describe a clear connection between the removal of large trees along with their root structures and landslides. Some commenters discuss the deleterious effects of clear-cut logging in riparian areas and steep slopes. Other comments describe personal past experience with flood events that the respondent feels are a direct consequence of timber harvesting and clear-cut logging. Many respondents associate the visual impacts of clear-cutting with resultant landslides caused by this type of timber harvest.

> *Previous logging has led to culvert failures and loss acreage on my privately owned land due to erosion and rain-on-snow events. Opening canopy on slopes above riparian zones as proposed in WOPR will increase soil exposure so to increase direct rain-on-snow contact. Increased melting leads to erosion, flooding, landslides. Actions will harm fish and human habitat integrity.* OL-00337

> *These areas will surely be logged under the WOPR and make flooding worse. The flooding is very hard on our area, damaging the streets and bridges. I strongly support the appropriate thinning of even age forests, done carefully to support healthy streams and the natural growth of the remaining forest.* 00948

Clear cutting is a particular problem—it is an ugly looking mess and it contributes to landslides. OL-00459

Forest Ecology

Most respondents do not attempt to evaluate the ecological science in the DEIS. However, the majority of comments on forest ecology and forest wildlife rely on ecological concepts focusing on the need to maintain ecological integrity.

I always see deer and elk every time I go riding, it really surprises me to see how the deer and elk use the OHV trails. OL-00050

Scientific advisors have made it abundantly clear to the BLM they must provide abundant high quality old forest habitat if the regional forest ecosystem is to remain functional. Non-federal landowners on the whole are doing very little to conserve old forest habitat, so BLM must help mitigate for habitat loss on non-federal land. OL-00014

National Landscape Conservation System (Wilderness Areas and National Monuments)

A small percentage of respondents called on the BLM to declare as national monuments or wilderness areas certain areas that are currently being considered for clear cutting.

There needs to be better access to the camp creek area. I enjoy this area a lot and it is getting very difficult to access it. PFT has put in a gate and it will be very difficult to walk in that far to enjoy the national monument. OL-00181

Areas and trails shall not be located in officially designated Wilderness Areas or Primitive Areas. Areas and trails shall be located in areas of the National Park system, Natural Areas, or National Wildlife Refuges and Game Ranges only if the respective agency head determines that off-road vehicle use in such locations will not adversely affect their natural, aesthetic, or scenic values. EM-02074

Noise Pollution

A number of commenters note the damaging effects of noise pollution caused by OHV use and industrial logging.

The noise and seemingly unending roaring of dirtbikes when one is trying to live peacefully below the ridge is awful and sometimes seems like it goes on for hours—especially on weekends. OL-01301

Realty and Ownership

Comments in this category concern private property and property rights. The effects of increased logging and increased OHV uses on BLM lands contiguous with private property are

noted by some respondents. Other commenters discuss environmental damage caused by private land owners and suggest that the BLM should counterbalance these actions by implementing less ambitious timber harvesting strategies

> *The sections being considered in Lake Creek are scattered amongst private lands. It seems likely that it would be difficult to keep OHV s off of private land.* 1895

Special Forest Products (SFP)

Comments in this category focus on the importance to the local economy of products harvested from old-growth forests.

> *Cottage industries that harvest tree boughs for wreath making, collect commercial mushrooms, or take visitors rafting, fishing or hiking flourish on public forests in western Oregon.* OL-00281

Soil

Issues related to soils are discussed by a few respondents with the majority focusing on soil erosion, and few on soil productivity or compaction.

> *Alternatives propose thinning on slopes above riparian areas in the Althouse Creek watershed. This has and will continue to increase erosion and will further degrade fish habitat for endangered Coho populations.* OL-00337

> *The clay soils are susceptible to compaction and rutting.* 01644

Threatened and Endangered Species

Commenters discuss threatened and endangered species in general about twice as frequently as the spotted owl specifically. Many respondents describe threatened and endangered species as markers for healthy ecosystems.

> *I urge the BLM to follow the laws dictated by Northwest Forest Plan to keep our water clean and to protect our threatened and endangered species.* 01715

> *Please: continue to protect threatened and endangered species such as the Marbled Murrelet and the Northern spotted owl.* OL-00333

Timber

The majority of respondents raise concerns related to timber harvest. Most of the comments on old growth call for a reduction in the harvest of old growth timber. Commenters

describe second growth stands as areas appropriate for selective logging. Other comments focus on economic gains from the harvest of timber.

- Timber: Old Growth

I feel that the BLM proposal is an environmental disaster. All old-growth trees should be placed off-limits to logging. There are billions of board feet of second growth trees that can and need to be thinned now. Please change your plan to exclude old-growth from logging. OL-00005

- Timber: Second Growth

We have plenty of timber lots that can be farmed by BLM, we don't need to clear cut anything around here—it is wasteful and thoughtless—you need to rethink your entire plan. OL-00251

- Timber: Timber Harvest

Cutting down old growth forests (Alternative #2 says "Regeneration harvest with no green tree retention") brings money and jobs to lumber companies—a short-term, not lasting, temporary gain. 01490

Thinning and Forest Management

The benefits of thinning second growth stands are described by some respondents. They argue that thinning is profitable and less controversial than logging old growth.

Additional revenues could be made by thinning overstocked plantations, managing more effectively, and more effectively utilizing alternative forest products. OL-00388

Intelligent, thoughtful, sustainable cutting of smaller diameter trees can create jobs for people and provide lumber and poles for building and other forest products. 01372

Several respondents express appreciation for thinning projects undertaken by the BLM in the past.

I appreciate the thinning, under-burning, and fuels reduction work you have done in the Applegate Valley area. OL-00499

Thinning is also seen as an effective strategy for fire hazard reduction.

For the Medford district, in particular, where risk of uncharacteristic fire is relatively high in many areas, forest management should focus on thinning of small diameter trees and brush to reduce risk of uncharacteristic fire. OL-01058

Some comments express frustration that BLM opened old growth stands to logging while not pursuing thinning.

> *Here we go again. I've lost track of the number of times I and the general public have asked the BLM to save the old growth forests and concentrate on thinning plantations and second growth forests.* EM-00193

> *Our house and the rest of the grounds were saved in part because of the forest thinning that we have done on our own property.* 01359

> *We've got an awful lot of younger stands of trees that will never look, feel, or provide varied habitat like an ancient, native forest. How about thinning some of those before you throw the baby out with the bath water?* 01817

A number of respondents discuss a causal relationship between increased timber harvesting and interrelated systems.

> *These forests clean the air we breathe. Clean the water we drink-very much so here in Corvallis. Anchor unstable slopes so they don't slide down onto freeways and people's homes. They serve as water sponges to absorb and release rainfall slowly as to lessen the impact of heavy rain events and create flooding.* OL-00578

Commenters describe the reconfiguring of mills to handle smaller diameter trees and how this could boost the economy without logging old-growth stands.

> *And please protect remaining old-growth forests, focus active management of BLM lands in already logged-over areas, and concentrate job opportunities in restoration forestry that would benefit watersheds and generate wood products without multiplying past mistakes.* 2379

Visual Resources

Respondents who comment on the visual resources of Oregon's old-growth forests take complex positions regarding the effects of logging. Many commenters discuss the scenic beauty of Oregon's old-growth forests. Statements in this category often allude to the economic benefits of old-growth forest, namely real estate value and eco-tourism. Other respondents point out the damaging visual impacts of logging.

- Visual Resources: Scenic Beauty

> *The BLM land, with its many diverse species and beauty is the only land worth visiting for recreation and to enjoy the natural beauty of the forest.* EM-00081

- Visual Resources: Visual Impacts

It's high time that rural counties stop sucking from the govt. trough and become independent of this welfare program. We are independent folk and we don't need bailouts from Uncle Sam. In the long run, intact old growth watersheds will provide much more sustained revenue to the counties than a short cut-and-run timber program that leaves us with destroyed landscapes and underfunded schools and government services. OL-00275

Water

This category was the second- most frequently mentioned, behind Timber. As with the threatened and endangered species category, this category shows the complexity of respondents' relationships with the natural environment. Comments coded to the water category refer to the overarching importance of water as a sustainer of life. Comments coded to the fish habitat category center on the importance of unpolluted streams and rivers as fish habitat. Comments coded to the water quality category focused on the importance of safe drinking water for the citizens of both rural and urban areas in Oregon. Comments coded to the riparian area category focus on the interconnectedness of steam temperatures and sedimentation and the condition of surrounding riparian areas. Finally, comments coded to the salmon category focus on the importance of healthy aquatic habitats for the survival of Pacific Salmon.

- Water: General

Please protect remaining old-growth forests, focus active management of BLM lands in already logged over areas, and concentrate job opportunities in restoration forestry that would benefit watersheds and generate wood products without multiplying past mistakes. 1917

- Water: Salmon

South Fork of Little Butte Creek, into which most the proposed OHV proposed designation area drains, is listed as a critical habitat for Steelhead and Wild Coho. 01895

- Water: Fish Habitat

Narrowing the buffer zone between the cut areas and the waterways would be a tragic loss for the fish and animals relying on clear water. OL-01011

- Water: Quality/Drinking Water

By logging near streams the WOPR reduces important protections for clean water and Pacific salmon. High quality drinking water originates on BLM lands for the citizens of Salem, Corvallis, Eugene, and 70 other Oregon communities. EM-02032

- Water: Riparian Areas

Many comments on the riparian areas focus on the fact that the changes recommended under the WOPR are inconsistent with the NWFP and/or the Endangered Species Act.

Our streams and rivers would not be as well protected under the proposed changes as they have been under the Northwest Forest Plan. Our streams need large un-logged areas around them to protect them from silt and debris. OL-00009

Some comments emphasize access to and through riparian areas.

Why not relocate trail segments out of riparian areas instead of closing trails entirely? OL-00070

A handful of respondents described how they had been a party to or witnessed the destruction of riparian areas.

A fishing trip along this stream presented me with beautiful older forest and stable riparian in 1986 (except for the lower mile that had been poorly logged by the State in the early 60's). Another trip in 1988 showed a clear-cut riparian (the buffer strip required by state law pretty much all blew down during a storm in the early 90's) and totally denuded hills in a section from the State boundary to several miles upstream. EM-00732

Respect riparian zones and even increase them-mudslides from the recent storms suggest one of the many repercussions of clear cutting! In addition, clean water and the integration of natural functions with local communities again call for solid, healthy riparian zones. 2100

<u>Water Quality</u>

Respondents who comment on water quality generally state that there are strong interrelationships between water quality and overall forest health. They are concerned about water quality as a function of riparian area, the effects of erosion and landslides, the presence or absence of herbicides and pesticides and water temperature. Concern is expressed in the comments about water quality related to natural systems, the purity and safety of drinking water, and the effect of logging operations in Southern Oregon on drinking water quality.

BLM lands protect water quality for communities' drinking water. Diminished protection on these lands will affect the drinking water quality for the citizens of Salem, Albany, Corvallis, Eugene, and Roseburg, among others. OL-00281

Additionally, our drinking water is also derived from these watersheds. The impacts of forestry near streams, particularly the use of herbicides/pesticides associated with logging, are particularly deleterious. OL-00009

Respondents also point out that the quality of safe drinking water is a concern of both local and national scale.

Research shows that water quality tops the list of environmental issues that concern Oregonians and I share that concern and think that the Alternative Plan 2 will seriously jeopardize the health of our watersheds. Not only humans, but the fish and all water species rely on clean water. 01118

Anglers point out that any decrease in the quality of forest streams will adversely affect their recreational opportunities in Southern Oregon.

Diminishing the size of the buffer zone around streams is bad science and bad policy. This not only bugs me as an angler but the damage to the fish habitat is compounded by the overall reduction in water quality and the warming that such action would cause. 01301

I do a lot of boating (and periodically, I go for an unexpected swim); I also fish. It's important to me be able to swim safely in the water and to eat the fish from our rivers and streams. OL-00920

Some respondents identify effects of increasing logging in riparian areas on overall water quality.

As a consequence, local watershed quality has significantly deteriorated over the area, causing seasonal stream flows to cease earlier each dry season, and winter run-off to rise in intensity, increasing erosion and silting. 2071

Some respondents see a link between forest stream and river water quality and the salmon fisheries on Oregon's coast.

We need to protect our salmon and other fish that rely upon our streams and rivers, both for their own sake as well as for the fishing jobs on the coast that depend upon protected watersheds. OL-00009

The cumulative effects of logging are worrisome to many respondents. The problem of water quality does not stand alone; it is interconnected with other dimensions of the ecology, economy and society.

> *Where will these forests be 20 years down the road? They will both be gone, and all that these practices will leave us is more rapid global warming, fewer lands for our fellow creatures, mudslides to destroy our homes and waterways, thus destroying our fish and our water tourism industries.* OL-00972

RECREATION

Bicycling

Although relatively few respondents specifically mention bicycling most do so in a general way.

> *We live in the OR coastal range and enjoy hiking, biking, 'shrooming and other forms of recreation.* OL – 01190

Bird Watching

Bird watching is often mentioned in tandem with other passive forms of recreation.

> *I use these lands frequently for hiking, bird-watching and photography.* OL-00542

Camping

Although most of these comments center on the non-motorized elements of outdoor recreation, some respondents lament the fact that OHVs are used to access remote areas.

> *Furthermore, some consideration should be given to individuals and families who utilize old logging roads for access to fishing and camping spots with 4-wheel vehicles as opposed to "recreationists" whose main fun seems to be roaring over the hillsides without mufflers, trying to cover as much ground as possible, making as much noise as possible.* OL01301

Fishing

Not only is fishing mentioned often as a recreational pursuit, but it is used in statements centering on water quality as well as our natural inheritance.

Think of yourself years from now. Where will you fish with your grandchildren?
EM-01917

Hiking

Hiking is the most frequently mentioned form of passive recreation.

He enjoys hiking, and when we visit him he likes to take us hiking and show us some of the unique beauty spots in Oregon. This includes the old-growth forests near Alsea Falls. EM-01800

Horseback Riding

This node not only centers in the non-motorized camp, it also delineates a generational chasm, as most of the respondents who state that they enjoy horseback riding have been engaging in this form of recreation for many decades.

They do indeed deserve safe areas to recreate—but not at the expense of folks who live in already developed rural neighborhoods who choose more passive methods to recreate—i.e. walking, hiking, jogging, horseback riding, bicycle riding, and who deserve to live free of the increased traffic danger, noise, air pollution, fire danger, stream degeneration, and decreased wildlife habitat that this OHV designation would absolutely cause. 01266

Hunting

Hunting is mentioned by both the motorized and non-motorized recreationalists.

I believe much of the future of our area lies in tourism. We have the aforementioned beautiful rivers and tree covered mountains that people pay to visit. The Rogue River is a fisherman's dream. People come here to camp, hike, raft, swim, hunt and fish. EM-00815

Non-Motorized Transportation

This node is in effect a sub-category of passive recreation, as it centers on the transportation mode used practicing and reaching the places of various recreational activities.

All this at the expense of roadless areas, threatened species, water quality, and non-motorized recreation. 01730

OHV

This mode encompasses all perspectives and opinions relating to off-highway vehicles. It includes both the motorized and non-motorized camps who are polarized around access points and usable areas.

> *Leave open what is open, leave closed what is closed; I ride dirt bikes; we can make do with what we have.* OL-01391

Passive Recreation

Passive recreation is mentioned primarily by respondents either advocating or claiming to engage in non-motorized transportation.

> *First of all, I value our older forests and the large trees that give them their special character. There are several reasons for this: 1. They are living cathedrals, where I get spiritual nourishment and renewal.* 01372

Picnicking

Part of the initial taxonomy derived from the DEIS, picnicking is rarely mentioned.

> *The problem with designating a forested area as an off road area is that is no longer multiple use after that designation takes hold. It is only usable as off road because the nature of 'that' use is restrictive to "all" other forest uses such as birding, hiking picnicking and even logging.* 1949

Water Sports

Like fishing this category is related to other categories by respondents. Water quality and the local economy are often mentioned in tandem with water-sport based recreation.

> *Cutting old growth will also have a negative impact on companies that rely on public lands. From outdoor retailers such as REI to local fishing rafting hunting guides, they will all loose money if the environment that they rely on is destroyed or altered so that it will not support the wildlife and habitat.* 2496

<u>Cultural Resources</u>

Cultural Resources include discussion of site-specific resources - Archeological sites and Historic places as well as more general comments about Natural Heritage, encompassing the argument that old growth forests have intrinsic cultural values.

- Cultural Resources (Archeological Sites)

Two of our favorite hikes are from our home to Lost Lake and also up to the spot that is locally known as The Monuments. This is a site on which the local Native Americans erected basalt pillars. This archeological site was shown to us about twenty years ago by an eighty year old man who had been shown it as a boy by one of the first settlers in this area. 01895

- Cultural Resources (Historic Places)

The Western Oregon Plan Revisions offer your agency a unique opportunity to help the Siletz Tribe achieve economic growth and meet the needs of tribal members by targeting land disposal actions to benefit federally recognized Indian tribes. There are four geographic scales for which we are interested in the proposed Lands Actions. The first is our ancestral lands. 01630

- Cultural Resources (Natural Heritage)

And if you must manage, manage more of the area so that it will someday grow into mature forest and old growth, so that our grandchildren can experience nature as she truly, organically, is. 1496

<u>Environmental Justice</u>

Few comments pertain to this subcategory.

Environmental Justice: The statement that there are no adverse human health or environmental consequences is at odds with scientific studies. The aerial spraying of herbicide and pesticide affects people downwind and downstream of the affected. OL-01159

<u>Fiscal Condition of Local Governments</u>

This theme is discussed frequently. A majority of the respondents feel that the O&C Act and the resultant dependence on resource extraction will damage Oregon's economy in the long run.

> *No significant changes have occurred in biological science since the time that the Northwest Forest Plan was enacted. This plan was based upon one of the largest scientific reviews ever conducted for such a project. We should not abandon science in favor of current budgeting difficulties.* OL-00009

Grazing

There are few comments on this topic.

> *I realize that historically BLM has been expected to consider that its primary responsibility is to provide valuable resources for homesteaders and their descendents. Perhaps that is why BLM has two alternatives which treat its domain goal/as a source of commodity extraction. In spite of this, BLM has managed to finally restore areas polluted by cattle grazing, trampling and dirtying our clean wilderness.* 00969

Local Community (Conflict and Controversy)

Some respondents comment on conflicts between the logging industry and the environmentalist movement. On the environmentalist side, commenters argue that BLM and the logging industry do not learn from past mistakes and compromises. Some respondents comment that the NWFP has been successful in reducing controversy.

> *You people need to wake up—it's 2007—the vast majority of people want to preserve old growth forests not clear-cut them—even the Forest Service recognizes this—if you cut old growth you get controversy, lawsuits, mistrust, etc... If you stay out of the old growth and focus on forest health, fire hazard reduction, thinning, etc... you get the job done—money, little controversy, happy loggers, mostly happy enviros—it's easy, why fight it?* OL-00126

> *The changes that the BLM is contemplating will unravel the protections of the landmark Northwest Forest Plan, and may lead to water pollution, degraded habitat, and increased conflict and controversy.* EM-01917

Local Economy

Many respondents who commented on the local economy called for a diversification of the economy and limits to the reliance on the timber industry.

I would like to see BLM manage for a diversity of economic and social resources. This would include maximizing timber production on lands suitable, and maximizing social benefits where possible. OL-00011

Mining

Mining is infrequently mentioned.

Under the section dealing with mineral extraction, there is no mention of the marble quarry adjacent to Monument. We assume that the quarry will continue to be withdrawn from mineral extraction under all alternatives. 2086

Property Value

This theme refers to respondents' concerns with the adverse effects of industrial logging on the values of properties contiguous to BLM lands.

I am also opposed as an adjacent property owner whose property value would decline. Why are adjacent homeowners to BLM being unfairly penalized? Just the decrease in all of the cumulative decrease in property values probably far outnumbers the money made by WOPR. OL-5080

Quality of Life

Quality of life is an issue of importance to commenters, not only in rural communities but urban areas as well.

Money is what is bringing this plan to us, not what is best for ecosystems, wildlife and thus sustainable economics and balance for human health. OL-00311

The residents of Portland and the metro area use this area extensively for rural recreation. It needs to be preserved for these values. OL-00472

The forests and rivers are very important to me and my family for recreation and we believe we need to preserve and enhance them for future generations. 01859

Selective cutting on the other hand allows the harvest of mature trees while sparing the forest they're growing in. It preserves the watershed, preserves habitat, reduces fire danger, allows recreation to continue unaffected and preserves the aesthetic appeal of the Northwest's signature forests—something that affects the general public far more than you give it credit for. 01096

Timber Industry

Comments from supporters of the timber industry call for increased logging. Other comments focus on the motivations of this industry.

I do not understand why the timber was not harvested under the guidelines of the NW Forest Plan and now, industry is complaining that they have been so stymied and restricted and are suffering so greatly financially that the BLM needs to drastically revise their logging practices and riparian area management. OL-01056

Tourism

Comments in this category refer to the unintended effects of logging on the long-term economic potential of tourism in Western Oregon.

The economic **figure***s factored into the alternatives are too narrowly focused, as they seem to only look at forest harvesting. Other factors such as the switch to service-based economies and tourism need exploration.* OL-00079

Values and Utility

This theme focuses on statements that reveal writers' motivations or rationales for their opinions. These comments may be general or specifically reference an opinion, theme or place.

STATEMENTS OF UTILITY

Professional Utility

Statements of professional utility focus on objections to WOPR by authors whose livelihood is dependent on forest preservation or on the logging industry.

I don't know all the details, but any change that allows more logging and income from our forests is fine with me. My family had been employed in the woods, and mills, for 4 generations, 3 with the same company. I now work for the county, and we need that money. OL-00775

As a property manager and Real Estate investor I am concerned about the effect that the Bureau of Land Management WOPR will have on one of the most beautiful areas of the United States. 01723

I am lucky enough to have been a resident of southern Oregon for over 25 years. I am a year-round resident, landowner, and businessman with financial and personal interests completely dependent on a healthy natural environment. 2034

I am an active OHV user as well as a small business owner that relies on OHV use in and around the Medford District, Lake View District, Roseburg District, Eugene District and others. While my business is located within the Medford city

limits, my ability to remain open and support my family is directly affected by these surrounding districts. OL-00161

We own a tree farm at Corvallis, Ore. This is where I live, earn my living, and recreate. I am very aware of the large volume of timber being grown today in the BLM Forest. We manage our timber to be very productive, and provide habitat for wildlife and space for the public to hunt and recreate. 00992

Recreational Utility

Authors who state a recreational utility are typically worried about general forest preservation or the impact of OHV trail designations.

As an avid angler and outdoorsman, the proposals by the BLM to revise current rules in Western Oregon are unacceptable. OL-00892

First of all my comments will be about the John's peak area. My family has been using the area for 40-plus years riding OHV's and when there is concern about the watershed it seems the first place that is responsible are the trails we ride on. OL-00303

I have been riding horses in Southern Oregon since 1972. As an avid trail and endurance rider, I have spent many hours enjoying the public lands in our area and am actually considered to be more knowledgeable than most about trail riding opportunities in the area. 2406

For me, personally, this proposal will adversely impact the areas where I hike and bird watch. 01770

Organizational Affiliation

Concerns about general forest preservation and the impact of OHV trails are typical for commenters who state their affiliation with an organized group.

I am an Oregon native. I am a non-commercial hunter, fisher, gatherer in western Oregon (for the past 63 years.) I am an educated biologist. I belong to several outdoor recreational/conservation organizations that cover pursuits from hunting through hiking/sightseeing. OL-00819

I am an 85 year old man who has for most of his life enjoyed a nonexploitive use of the beautiful Southern Oregon and Northern California area. I am also a retired United Methodist Minister. I have been active in various environmental organizations. OL-00861

<u>Relocation/Visitor</u>

Comments by people who have relocated to or retired in Oregon or who are visitors to the area typically state that their lifestyle is dependent on the natural resources currently offered in Oregon that they feel are threatened.

> *We moved to Southern Oregon seven years ago because we love the natural beauty and the peace and quiet of the Siskiyou Mountains.* 01705

> *It has been brought to our attention that the BLM office is planning to develop an off the road vehicle emphasis and WOPR in our area. We strongly disagree with this development in our area. We bought our retirement home last year on Thompson Creek Rd. in Selma with the intent to get away from the city life and to enjoy the county life.* 01726

> *I live in Seattle, WA and frequently visit Oregon to ride dirt motorcycles.* OL-00626

STATEMENTS OF VALUE

<u>Maximizing Forest Resources</u>

The comments described below juxtapose alternative views on the best use of the forests. There are those who feel the intact forest provides the highest value. In contrast, there are those who feel timber harvesting is the best use of the forest. The local economy and the condition of the local governments represent an oft-emphasized cluster or system of proposed initiatives and predicted repercussions of these initiatives. A majority of the comments on the local economy focus on trajectories of planning that will reduce the area's dependence on the logging industry. Tourism, especially eco-tourism is touted as reason enough to leave the old-growth forests standing.

- Forest Values Are Maximized by Preservation

The largest single type of value statement addresses the alternative value of forests. These authors state that the forest should be valued for its many benefits—both non-economic and economic—besides timber. Some people stress that "it's not all about money" while others emphasize the economic value of forest preservation. Many authors express frustration that

these values are not considered in WOPR. The value of the forest as habitat for other species is most commonly cited as an alternative value along with recreation/tourism. Many people also mention the public health benefits like clean water and fresh air. Several comments mention the forests as a carbon sink and a source of products like medicine. The global scale of these non-economic values is frequently mentioned as well. There is a substantial amount of comment on the need to be flexible as an organization, industry or individual during uncertain and changing times. This cluster of comments is rooted in the perceived need to change the trajectory of Oregon's development and the feeling that Oregonians have the wherewithal and gumption to imagine and enact an alternative future. Commonly cited values include:

Economic
- Tourism
- Recreation
- Real estate development

Non-economic
- Habitat
- Carbon Sink
- Natural disaster protection
- Public Health benefits- Clean air & water, ecological services
- Forest products like medicine
- Spiritual/psychological benefits

Oregonians do not want their old-growth forests cut down; not for timber, not for gigantic Christmas trees, not for giant log-rolling competitions. They belong where they are. Standing tall for centuries to come they are worth more to our communities as sources of clean water, wildlife habitat, carbon sinks, and of course as recreation havens. EM-00541

While healthy forests are becoming increasingly scarce, our need for their life support functions is steadily increasing. OL-00878

Cutting old growth will also have a negative impact on companies that rely on public lands. From outdoor retailers such as REI to local fishing, rafting, and hunting guides, they will all lose money if the environment that they rely on is destroyed or altered so that it will not support the wildlife and habitat. 2496

- Forest Values Are Maximized by Resource Extraction

A smaller number of authors value the forest as a source of resources. They feel that to not use the timber provided by the forest is a waste. They feel that the forest is theirs to use as residents who rely on the economic value of timber.

> *Jackson County would not have curtailed services and closed libraries if logging is properly allowed to occur on forest lands. I don't think we should be begging for hand outs from the Federal Government when we have the resources to finance our own local government with logging receipts.* OL-00034

> *The northwest states, including Oregon, are not just a playground for the rest of the USA. 'We the people' live here and must have means to remain here.* 01145

> *Libraries are being closed or opened on a limited basis and jails are being emptied as the timber receipts have disappeared. Harvest 960 million board feet annually, stop the waste of our public lands and provide a stable timber supply.* 01063

Variation in Time Frame of Desired Forest Benefits

Another stark comparison between authors is the time frame in which they view the value of forests. Many are concerned with the impact logging will have on the future, or the heritage value of forests. Others are concerned with the value timber has in the present.

Heritage Value

Several categories of statements addressed the heritage value of forests. These statements contrast from statements of utility in that they focus on the benefits that forest can provide in the future. They imply that logging is a selfish act that robs the future of the benefits we currently enjoy. They feel that ecologically it will destroy something we cannot get back and that it is cheating future generations of a heritage of recreation, scenic beauty, and ecological services provided by the forest.

Rather than focusing on the current benefits of the forest these comments stress that a low discount rate that should be applied to the value of forests. This argument centers on the claim that the exploiting the natural environment to solve current financial difficulties is rooted in a worldview that is not compatible with a modern political, social and environmental understanding of the world. Respondents on this side of the discussion claim that the long-term

survival of these communities is tied to the forests and that destroying them will eventually destroy the communities themselves.

Similarly, many writers are frustrated with the focus on logging that they see a very short-term solution with long-term negative consequences. They feel that economically logging is not as viable as other forest values discussed above. Many writers express distress that the small fraction of remaining old-growth forest is being considered for logging. They feel we should not destroy what little is left of an irreplaceable resource. To these respondents, the scarcity of forests is reason enough not to cut it down.

• Heritage Value: Old Growth Is Irreplaceable

Our ancient for(e)sts CAN NEVER BE REPLACED ONCE THEY ARE LOST!!
EM-00081

While it may be true that 'trees' can be replanted, old-growth trees CAN NOT. Not to mention old-growth forests. It is simply impossible to recreate the eco-diversity that nature has created over hundreds or thousands of years. EM-00823

Trees are the lungs of the earth. Once they are cut, the stands cannot be replaced for hundreds of years, even should they be replanted immediately. 1911

• Heritage Value: Forest Protection Is a Moral Imperative for the Future

These comments include personal ("my grandchildren"), impersonal ("future generation") and second-person ("your children/grandchildren") statements.

You rob your children of the beauty of this planet for money? Think of yourself years from now. Where will you fish with your grandchildren? What campfire will you sit around then? What nature hike will you share with the sons and daughters of your children now? What will YOUR future family albums contain??? EM-01917

I am a 20 year old student and hope to someday share with my son or daughter the beauty and splendor of our beloved forests. 1902

My wife is pregnant, and I feel it is important that my children and their children are able to marvel at trees that reach for the sky. Please do not rob them of their future. 2496

• Heritage Value: Plan Alternatives Achieve only Short-Term Benefits

If this is implemented, there is no turning back...you will find that the long-term problems will far outweigh the short-term gain!   OL-278

Cutting them will be a short-sighted financial windfall, but a long-term disaster for the state. OL-386

- Heritage Value: Minimal Forests Remain

Given the fact that only 5% of the old-growth forests remain of what once existed in our region, it makes no sense whatsoever to be doing ANY more logging in ANY of our old-growth forests in our country. OL-01153

We have so little forest left; given the probability of climatic change, with wetter winters and drier summers forecast, I think it would be foolhardy to increase harvest rates, and thus increase soil erosion, runoff and habitat destruction for ecosystems about to be stressed due to temperature and rainfall pattern changes. OL-01153

Current Use Value

Several authors express the value that using timber now is the best use of forests and the best means of ensuring the current wellbeing of residents. This is usually stated as an economic argument that sometimes addresses the needs for a balance of uses and local control. Many respondents claim that something must be done soon to stabilize local economies and fund local counties and municipalities. This argument focuses on the current fate of underemployed citizens and financially strapped public service providers.

To let the forests go unused while people suffer is crazy. OL-00775

I would like to see BLM manage for a diversity of economic and social resources. This would include maximizing timber production on lands suitable, and maximizing social benefits where possible. OL-18

I wish to support BLM's preferred alternative, Alternative #2. I feel that this is a thoroughly researched alternative which meets all the requirements of current law and yet allows for a reasonable level of forest products harvesting, which is a very important factor in the economic sustainability of the Southern Oregon economy. OL-54

<u>Private Use of Public Lands</u>

This is a fundamental debate about the role of public lands in serving the public interest. It falls into two categories:

- Private Use of Forests Does Not Serve the Public Interest

Many writers believe the forest should be preserved for public uses like recreation and other values listed above, and that private use by logging interests degrades these values. They feel that public lands should not be used to serve private interests.

As an OHV user I am extremely worried about the future of my sport in this state. These lands belong to the public and the public should be able to have access to these lands. OL-26

It is unacceptable to me that the Bureau of Land Management now appears to exist for the benefit of the private timber industry, using national forests as nurseries for timber production. OL-73

The public's enjoyment is a much higher priority than industry profits. Please let these forests manage themselves, they do a better job. OL-01315

- Private Use of Forests Serves the Public Interest

Another group of authors feels that the economic activity provided by private logging of forests benefits the public, and that public lands are to be used for resources that benefit the public.

Meeting the financial needs of local communities/counties by stimulating and assisting local forest work forces, mills and the economic needs of County governments is paramount. OL-300

Alternative 2 seems to the most balanced plan with active management. It is crucial to not only protect the environment, but also be helpful to our local economies. OL-29

I support Alternative No. 2 as recommended by Mr. Schott in his Guest Opinion in Sunday's Medford Mail Tribune. Why? 1...Because the O&C Act of '37 allows it; 2...Mother Nature has provided for it; 3...The level of logging called for is reasonable; 4...And the people of this area need financial help. OL-00032

<u>Understanding of Logging Consequences</u>

A fourth point of contrasting values regards the validity of environmental claims against logging. Many authors express frustration that WOPR disregards the lessons of science and experience, while others feel strongly that these claims are overblown by environmental advocates.

- Consequences of Logging Known

Many authors feel that debate on WOPR is not needed because the negative consequences of logging are already known. Given the history of logging in the Pacific Northwest, they feel the impact of increased logging is predictable. These comments stress that logging does not create just long-term economic or environmental problem, but are an immediate disaster that any citizen can witness. Respondents express frustration that the BLM would repeat mistakes instead of learning a lesson from the past. In addition, they feel that science has proven logging to be environmentally destructive.

The Willamette River is already listed for temperature, mercury and turbidity. Upland logging will negatively affect this. Already 600 miles of streams and rivers are polluted; increased clearcutting can only make it worse. OL-00580

Northwest Forest Plan was enacted. This plan was based upon one of the largest scientific reviews ever conducted for such a project. We should not abandon science in favor of current budgeting difficulties. OL-00009

- Rejection of Environmental Extremism

A smaller number of comments express frustration over what they see as the misplaced power of environmental groups who do not serve local interests.

We are being blackmailed by environmental interest groups and nobody seems to be doing anything about it. Individuals in the rural Oregon communities ultimately do not have any say in the management of public lands. 01889

These laws pushed by the extreme environmentalists above and beyond reasonable have destroyed the economy here in Oregon. OL-00034

Forest Access Provides Safe Family Recreation

Many authors are concerned that the removal of forests and forest access would take away a resource that many people use on a regular basis for multi-generational, family activities which have been formative for the commenter or the commenter's children; in

some cases, commenters view the forests as a safe alternative to drugs. To cut down the forest or restrict access would eliminate these experiences from the commenter's lives.

> *My family has been going on BLM land for years. It gives us a place to go and be out in the woods.* OL-358

> *I think the BLM really needs to keep as much land open to multi use as possible. Closing areas from OHV use will really hurt families who use OHV activity as a way of bonding. In Jackson County we have a huge program going to keep kids and adults off drugs. We start taking away their activities then we courage them to do other things like drugs.* OL-214

> *The positive impact this area has on families in this area simply cannot be measured. Kids in this community can easily fall victim to drugs, alcohol and dropping out of school. Sports, school and quality time with family including OHV riding are activities to keep kids focused and out of mischief.* OL-00764

Governance

This section reviews primary positions and types of judgments, evaluations, arguments and attitudes expressed with respect to a theme or issue. Commenter positions on WOPR alternatives as well as other expressions of opinion that do not address WOPR alternatives are also addressed. Comments such as those directed at the Bush administration and general distrust of the government or environmental organizations are also included in this section.

The comments included in this group address WOPR's management frameworks as well as specific positions on WOPR alternatives. Several themes emerge from commenters' positions on WOPR: BLM's goals in proposing WOPR, the emerging conflict between BLM's mandate and WOPR, the scientific basis for WOPR, and the decision making and public participation processes and the DEIS document itself.

BLM'S GOALS

One of the primary concerns several commenters raise is that WOPR alternatives are inconsistent with BLM's mission. Many of these commenters argue that because BLM, along with other land management organizations, was created to conserve and protect forests, BLM should promote forest restoration rather than industrial logging.

Many of us see through it and we are ready for the Environmental Protection Agency, the BLM, the Department of Fish and Wildlife, etc., to become the protectors of our last remaining wild areas and cease being the strong arms for the forest industry, pesticide and herbicide companies, agri-business, the hunting industry, etc. OL-00434

Alternatively, some commenters express the opinion that it is in BLM's mandate to consider diverse needs, including economic and social concerns.

I realize that historically BLM has been expected to consider that its primary responsibility to provide valuable resources for homesteaders and their descendents. 00969

I strongly feel that timber harvest needs to continue. Timber is a renewable resource—that is a matter of fact, not just a slogan....if done properly and on the proper soils and slopes, not only does the area recover fully.... harvesting can't be as bad as they claim. OL-01030

I support the BLM's attempt to implement a plan that is well rounded and includes an increase in the harvesting of timber. I feel this should include clear cutting and thinning at the BLM's discretion. The O & C lands are not a nature preserve and should be used for multiple uses, which definitely include timber harvesting. OL-01107

LEGALITY

A second theme related to governance concerns the legality of WOPR.

To Whom It May Concern, I would like to know just how you think your agency is going to implement an illegal plan? Don't you realize that the NWFP offers bare minimum protection for habitat and species and you are trying to downgrade those protections here. The private lands that are checker boarded around BLM are all young mono-culture acreages. OL-00275

This cover letter also attempts to limit the scope of public comment by misleading the public into believing that BLM is required to maximize logging. The O&C Act gives BLM wide discretion to conserve forests protect watersheds and to stabilize communities. The 1994 Northwest Forest Plan was upheld by the courts over the objections of the timber industry under the reasoning that conserving habitat would avoid future listings of fish and wildlife and thereby help assure stable (though reduced) future timber harvest. OL-00014

If law is guiding you, then why the change in policy why suddenly increase the amount of timber being cut? What was wrong with the previous amounts—were you within the law then too? EM-00071

The WOPR is a bad idea and is in violation of newer laws that have been instituted to correct the past activities that have damaged our fisheries and wildlife. The people want their water to be clean and their wildlife preserved. That is why the clean water act and endangered species act were passed into law. The writers of the O&C act probably did not anticipate how efficient the logging industry would be at liquidating the forests. EM-00826

SCIENCE

Some commenters also question the scientific basis for the BLM proposals.

Cumulative Effects

As such changes are extremely difficult to un-do, we should proceed conservatively by reducing our impact on the environment, not by increasing it. OL-00009

Data

I have pointed out both incomplete / missing information and errors in the BLM analysis new or missing information that have a bearing on the analysis. 01523

Interpretation

Your own statistics show an increase in popularity and usage of OHV areas along with concerns of crowding in areas. Your plans do NOT show a "net" growth of acreage for OHV activities. 2122

Models

How can anything be accurately modeled out for 400 years? It is possible that sometime in the not too distant future wood may not even be the preferred building material. 01118

Science - General

No significant changes have occurred in biological science since the time that the Northwest Forest Plan was enacted. This plan was based upon one of the largest scientific reviews ever conducted for such a project. We should not abandon science in favor of current budgeting difficulties. OL-00009

This plan and process seems like a sham to me. The alternatives do not seem to present clear or realistic choices. I do not see how the science or the economics presented in this report would allow anyone to make a reasoned decision, even given the time to sift through the mounds of chaff in these slow loading pages. OL-00922

I support the NO ACTION alternative. This entire process is obviously industry driven. The science needs to be studied much more long term (for example, large wood in streams how much comes from adjacent land vs. landslides; seriously, even a layman like myself can see that this determination cannot be made by the time the recommendation is due, and the political climate needs to change from industry-driven to science-driven (which again, will take a lot more time) before any kind of action can be taken. OL-01056

PUBLIC CONTROL OF RESOURCES

Many commenters are concerned about the ability of local agencies to oppose and resist pressures from industry and federal government.

It is unacceptable to me that the Bureau of Land Management now appears to exist for the benefit of the private timber industry, using national forests as nurseries for timber production. If we are going to subsidize the timber industry, let's do it in the most visible manner, not by giving away our forest heritage. OL-00117

It is my hope that someone in management will have the courage to look the Bush administration in the eye and say just this: If we follow your plan, all we will have left in the next 50 years are 'Bushes'. Please, please, see the forest for the trees, not their timber value. OL-00117

VOICE AND PARTICIPATION

The process chosen by BLM to solicit public comment on WOPR is criticized by many commenters.

WOPR should initiate meetings between private landowners and motorized recreation users to help reduce conflicts between them. OL-00070

I prefer 'no action' if (as I understand it, from wading thru the staggering quantity of bureaucratic mire that comprises this EIS) 'no action' is the option

which preserves the very few stands of 200 year old trees left on BLM property.
OL-00060

The process involved in the DEIS troubles me greatly. It seems way too political and produces conflicting solutions to management of the federal properties. OL-01129

...that OHV emphasis areas are being proposed without any prior indication of such to the public in the scoping process thus precluding the ability of the public to give meaningful input at that time 2018

STATEMENTS OF AUTHORITY

Statements of professional or educational credential frequently cite an environmental or natural resource background that the commenter uses to provide legitimacy for their opinion.

5. *Professional/educational credential.* These statements relate to a professional degree or work experience that the commenter uses to establish expertise on the subject. For example, the commenter may cite credentials as a professional in biology or other natural resources field.

6. *Role as citizen.* These comments refer to a specific role in society held by the commenter that they feel gives them a unique perspective and right to be heard. These are rather straightforward comments that generally use the words "resident," "citizen," "voter" or "taxpayer."

7. *Witness to potential consequences.* These statements describe a personal experience the commenter has had that leads them to feel knowledgeable about the consequences of plan alternatives. These frequently involve having seen first-hand the effects of past logging or OHV use.

8. *Disputes the need to be an authority.* These statements express dismay at the idea that a citizen should need to have any authority to have a legitimate voice in the WOPR decision making process.

Professional/Educational Credential

These statements relate to a professional degree or work experience that the commenter uses to establish expertise on the subject. For example, the commenter may cite credentials as a professional in biology or other natural resources field.

> *I recently retired from the Forest Service. The first 14 years of my career was spent in timber. Based on that experience, I know exactly the extent of damage that logging and roading inflicts on any forested ecosystem.* EM-02054

> *In addition to losing these stately trees, one must consider the impact on the environment. I taught Environmental Engineering for 30 years at Rensselaer Polytechnic Institute.* EM-01800

> *As a former school board member, I recognize the contribution BLM harvest has made to stabilize school funding and provide employment in the rural areas of our state.* OL-0043

Witness to Consequences (of Logging)

These statements describe a personal experience the commenter has had that leads them to feel knowledgeable about the consequences of plan alternatives. These frequently involve having seen first-hand the effects of past logging or OHV use.

> *My family and I enjoy the Oregon forests year round. Last fall while hunting mushrooms for eating and recreation we observed our favorite hillside being logged by a private logging company.* OL-380

> *As an avid angler and river runner for over 25 years I have seen first hand the effects of clearcut logging on the steep coastal river drainages of these lands.* OL-537

> *In my job I was responsible for reseeding areas that had been selectively logged. From my hands-on position I was able to see first hand what was then a living example of the destruction of our landscape by the timber industry that continues today without interference from your agency, which is supposed to protect our legacy instead of selling it to the highest bidders.* 01721

Role as Citizen

These comments refer to a specific role in society held by the commenter that they feel gives them a unique perspective and right to be heard. These are rather

straightforward comments that generally use the words "resident," "citizen," "voter" or "taxpayer."

> *As a taxpayer and citizen I implore you to continue the Northwest Forest Plan guidelines and protect our precious natural resources.* EM-00815

> *I was born, raised and live here in Oregon. I have paid local, state and federal taxes for over thirty-five years. I have two words for You, BLM: LESS LOGGING.* 1970

Disputes the Need to Be an Authority

These statements express dismay at the idea that a citizen should need to have any authority to have a legitimate voice in the WOPR decision making process.

> *When I telephoned you last month to state that I strongly objected to logging any of our remaining old growth forests you told me I must be more specific, preferably in writing. Since that phone conversation with you I have attended meetings, taken hikes in several old-growth forests and have been doing a lot of reading.* 01118

> *You request for me to submit some sort of professional revisions as if I have in my spare time taken a graduate course in forest management. Since I have not does that mean my opinion won't be counted? I am a tax payer and I vote. That should make me as eligible as anyone else since we the people are (at least on paper) the government.* 2073

COMMENT TEXT ANALYSIS: PLACE ATTACHMENT

Memories and Connections to People, Culture, and Place

> *There is an old-growth grove of 250-300 year old trees that I hike to and pray at. This grove is my church. I do not want to see it destroyed by the government. I see diverse species of trees here—Western Red Cedar, Hemlock, Yew…. I would like to turn this area into a memorial grove park for people's deceased loved ones.* OL-00580

> *When I was a child nearly 65 years ago, we lived on a farm near the mouth of the Columbia River that was founded in 1880 by my late grandfather…. I remember*

the 12' thick trees routinely being hauled out of the forest and the destruction of the landscape that followed. Don't you care? 01721

Although the plan acknowledges the devastation to the lives of Native Americans due to arbitrary and often genocidal policies of our government, it makes little or no mention of their impact upon Native culture, specifically upon Native religious and spiritual practices. In fact, the words 'religion' and 'spirituality' do not occur at all. ....The recognition of sacred place is vital to Native American religions, far more than it is to religions of the dominant culture such as Christianity or Judaism. 1998

Emotional Attachment

Please stop all cutting of old growth forests! We have so little left. We cannot and should not lose anymore! There needs to be old growth forests left to visit to restore our spirits and our bond with the natural world. We have been raping the earth for many years and it just has to stop now. OL-00990

First of all, let me just say that I am not a tree-hugger or hippie. I'm a student in Olympia, WA studying ethnobotany and psychology. I am originally from the East Coast, and moved to the Northwest- I immediately fell in love with a region with such a complex ecosystem, where people actually CARE about their natural surroundings—and naturally, each other. EM-00381

Length of Time Spent in and/or Near BLM Areas

I am an over-30 year resident of the Illinois Valley in southern Oregon writing in opposition to WOPR. In the years my husband, son and I have lived here I have come to love Oregon, its tree-covered mountains, clean air and clear rivers. I like to hike in the forests and raft the magnificent Rogue River. In traveling around the country I have learned that what we may take for granted here is unique and that few areas rival Oregon's riches. EM-00815

I have lived here for 75 years. I know there are bear and cougar in the BLM lands around my property, and they will be down here if harassed by ORVs...My family lands include 200 acres that share a property line with the BLM. I should not have to fence out the ORVs. 01310

I live in a small community in southwestern Oregon that will be impacted greatly by the proposals. ... I first moved to Oregon in 1971 to fulfill a childhood fantasy, moved by the beauty that I saw in photos when in elementary school. I now live in the Illinois Valley and my home is next to a forest that is threatened by the WOPR. However, it is not just my 'backyard' that I wish to protect, but that which makes western Oregon special. 01372

<u>Adjacency</u>

Several respondents state that they have lived next to BLM land or in close proximity for the majority of their lives. There is a sense that this public land should be a resource for their pleasure and not a resource for federal income. Many respondents moved to their current residence because of the quality of life associated with BLM areas, specifically Oregon's deciduous forests, rugged terrain, and cold water creeks. However, there is a definite divide between OHV recreationists and other recreationists. Both groups are in favor of maintaining forests for their local recreational pursuits.

In these comments, physical environments are typically identified by name of location (Oregon, John's Peak, Bend, Spokane, etc.), region (Western Oregon, Pacific Northwest, Western States, Portland's East Metro Region, etc.), districts (Salem District, Eugene District, Roseburg District, etc.), or type of physical environment (BLM lands, my back yard, urban area, natural area, swamp, watershed, forest, etc.).

> *I have read with horror that you may turn my local neighborhood into an Off Highway Vehicle Emphasis Area.* 01622

> *As residents of the Little Applegate Valley, we wish to express, in the strongest possible terms, our opposition to the planned dramatic increase in Off-Highway Vehicle (OHV) activity in the Applegate watershed.* 01705

> *I live near Highway 36 and Fern Ridge dam and my sister lives in Dexter. ... When we first came to the area, we asked about who owned these wonderful, ancient giants and were told 'BLM.' When we heard that name, we breathed a sigh of relief that those beauties weren't at the mercy of a private owner. That name has become synonymous, in our minds, with protection of old forest. I guess we were wrong after all, at least under the current administration.* EM-00393

APPENDIX 7: CLUSTER ANALYSIS METHODOLOGY

In order to triangulate the results of our qualitative research results with a more mathematically rigorous modeling method, we ran cluster analyses on the data produced during the NVivo coding process. Unlike discriminate analysis, factor analysis or regression analysis, cluster analysis does not require that any assumptions about the underlying distribution of the data be made. Therefore, there are no assumptions of correlation or causation. Cluster analysis offers a method of systematically grouping cases or variables into clusters that show high levels

of similarity. In this case, we wished to see if certain variables were grouped (clustered) with other variables by the respondents, such as whether variables of policy and the ramification of policy clustered or if these variables were independent of one another.

In order to conduct the analysis, the spreadsheet containing all of the coding was transferred to SPSS, a statistical analysis software package. Using SPSS, we then ran a series of hierarchical cluster analyses. Hierarchical analysis utilizes complex algorithms to determine the similarities between cases or variables in a data matrix. Similarity is determined in terms of the squared Euclidean distance from the mean within the emerging clusters. Whereas correlation coefficients measure similarity between variables in terms of their responses to external explanatory variables, the squared Euclidean distance is a measure of how similar variables are in terms of a standardized distance from a standardized measure, in this case the mean.

Cluster analysis can be run either on cases or on variables. In that we were interested in teasing out clusters of variables that were similar statistically, we ran the analyses on the variables. Since our variable set is relatively large and affected by multicollinearity (response variables that vary as a result of their relationships to one another and not necessarily on their relationships to explanatory variables), we used the Ward method. Whereas clustering algorithms, like nearest neighbor and furthest neighbor, operate on the assumption that there is a chain of similarity between variables, the Ward method builds clusters based not upon such a linked chain within the data set, but upon the minimization of variance within emerging clusters. Although more complex, this iterative, non-sequential algorithm results in a more accurate representation of the relationships between variables.

We stipulated that SPSS' output form between two and ten clusters. Although ten clusters resulted in a finer breakdown of the data, delimiting the analysis to four clusters proved more efficacious. This statement is confirmed by the dendrogram shown in the figure below, which shows a clear delineation of four separate clusters at a rescaled distance from the mean of approximately 2.5.

A dendrogram a tree diagram that is read from left to right. On the left side, all of the variables form their own individual clusters. As the diagram forms to the right we see clusters (branches) form until, at a distance of 25, all of the variables form one cluster.

The dendrogram allows the graphical representation of not only the formation of the clusters but also the degree of similarity within the individual clusters. Recall that similarity is a

function of distance, in this case squared Euclidean distance. The cluster membership table and the dendrogram offer a clear breakdown and explication of the relationships between the variables through their cluster membership.

```
* * * * * * * * * * * * * * * * * * * H I E R A R C H I C A L   C L U S T E R   A N A L Y S I S * * * * * * * * * * * * * * * * * * * * *


Dendrogram using Ward Method

                        Rescaled Distance Cluster Combine

        C A S E        0         5        10        15        20        25
     Label      Num    +---------+---------+---------+---------+---------+

     ANALYSIS      2   ─┐
     ANALYS_1      3   ─┤
     ANALYS_2      4   ─┤
     NATURALE     13   ─┤
     IMPLEMEN      8   ─┤
     STATEMEN     48   ─┤
     PROCESSA     32   ─┤
     NATURA_1     18   ─┤
     STATEM_1     72   ─┤
     STATEM_2     55   ─┤
     STATEM_3     56   ─┤
     STATEM_4     71   ─┤
     IMPLEM_1      7   ─┤
     STATEM_5     60   ─┤
     STATEM_6     52   ─┤
     STATEM_7     57   ─┤
     NATURA_2     21   ─┤
     STATEM_8     68   ─┤
     STATEM_9     51   ─┤
     NATURA_3     12   ─┤
     ANALYS_3      1   ─┤
     STATE_10     66   ─┤
     STATE_11     69   ─┤
     STATE_12     49   ─┤
     STATE_13     54   ─┤
     STATE_14     63   ─┤
     STATE_15     65   ─┤
     SOCIOECO     42   ─┤
     STATE_16     70   ─┤
     IMPLEM_2      9   ─┤
     STATE_17     59   ─┤
     STATE_18     67   ─┤
     STATE_19     46   ─┤
     STATE_20     62   ─┤
     STATE_21     47   ─┤
     PROCES_1     33   ─┤
     RECREATI     35   ─┤
     RECREA_1     36   ─┤
     NATURA_4     11   ─┤
     NATURA_5     19   ─┤
     NATURA_6     16   ─┤
     PROCES_2     34   ─┤
     SOCIOE_1     45   ─┤
     SOCIOE_2     43   ─┤
     STATE_22     50   ─┤
     STATE_23     53   ─┤
     NATURA_7     20   ─┤
     NATURA_8     22   ─┤
     NATURA_9     27   ─┤
     NATUR_10     25   ─┐
     NATUR_11     28   ─┤
     NATUR_12     17   ─┤
     NATUR_13     30   ─┤
     NATUR_14     10   ─┤
     RECREA_2     38   ─┤
     RECREA_3     37   ─┤
     SOCIOE_3     39   ─┤
     SOCIOE_4     41   ─┤
     NATUR_15     15   ─┤
     NATUR_16     26   ─┤
     SOCIOE_5     40   ─┤
     SOCIOE_6     44   ─┤
     NATUR_17     14   ─┤
     STATE_24     61   ─┤
     IMPLEM_3      6   ─┤
     IMPLEM_4      5   ─┤
     NATUR_18     23   ─┤
     NATUR_19     24   ─┤
     NATUR_20     29   ─┤
     PROCES_3     31   ─┤
     STATE_25     58   ─┤
     STATE_26     64   ─┘


Abbreviated   Extended
Name          Name


ANALYS_1      ANALYSISOFENVIRONMENTALCONSEQUENCEANALYTICALMETHODSInterpr
ANALYS_2      ANALYSISOFENVIRONMENTALCONSEQUENCEANALYTICALMETHODSModels
ANALYS_3      ANALYSISOFENVIRONMENTALCONSEQUENCEANALYTICALMETHODSCumulat
ANALYSIS      ANALYSISOFENVIRONMENTALCONSEQUENCEANALYTICALMETHODSData
IMPLEM_1      IMPLEMENTATIONPriorities
IMPLEM_2      IMPLEMENTATIONUseandAccessRestrictions
```

Cluster Membership

Case	4 Clusters	3 Clusters	2 Clusters
AECAMcumulative	1	1	1
AECAMdata	1	1	1
AECAMinterpretation	1	1	1
AECAMmodels	1	1	1
IMP buffe requirements	2	2	2
IMP policies and regulations	2	2	2
IMP priorities	1	1	1
IMP protected areas	1	1	1
IMP access restrictions	1	1	1
NE access transportaion	3	2	2
NE air qualtiy	1	1	1
NE ACEC	1	1	1
NE botnay invasive	1	1	1
NE climate change	2	2	2
NE fires	2	2	2
NE flooding	1	1	1
NE ecology	4	3	2
NE NLCS	1	1	1
NE noise	1	1	1
NE ownership	1	1	1
NE forest products	1	1	1
NE soil	1	1	1
NE spotted owl	2	2	2
NE TES	2	2	2
NE old growth	4	3	2
NE second growth	2	2	2
NE timber harvest	1	1	1
NE timber general	4	3	2
NE visual resourses	2	2	2
NE water	4	3	2
PGPC purpose	2	2	2
PGPC problem criteria	1	1	1
PGPC public participation	1	1	1
PGPC statements about BLM	1	1	1
REC fishing	1	1	1
REC hunting	1	1	1
REC OHV	3	2	2
REC nonmotorized	3	2	2
SOE cultural resources	2	2	2
SOE conflict contraversy	2	2	2
SOE local economy	2	2	2
SOE property value	1	1	1
SOE quality of life	1	1	1
SOE timber industry	2	2	2
SOE tourism	1	1	1
SA expertise	1	1	1
SA citizen right to voice	1	1	1
SA witness of past	1	1	1
SA professional	1	1	1
SA recreational interest	1	1	1
SA relocate	1	1	1
SA org affiliation	1	1	1
SA alternative use	1	1	1
SA consequences known	1	1	1
SA current use value	1	1	1
SA economic growth	1	1	1
SA global impact	1	1	1
SA long term	2	2	2
SA private use bad news	1	1	1
SA environmental extremism	1	1	1
SAOA organizations	2	2	2
SAOA people	1	1	1
SO economics	1	1	1
SO environment	2	2	2
SO legal	1	1	1
SO science	1	1	1
SO special interest	1	1	1
SO specific topic	1	1	1
SO alternative 1	1	1	1
SO no action	1	1	1
SO pro economics	1	1	1
SO pro mixed land use	1	1	1